

## Agencies aim for better security audits

A number of federal agencies, including the Defense Department, are proposing new measures to evaluate network security.

Page 11.

# MOBILE

## Mobile World Congress recap

Android largely MIA, Windows resurgent, LTE elicits yawns. Page 12.

# NETWORKWORLD

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February 23, 2009 ■ Volume 26, Number 8

## Microsoft-Red Hat team on virtualization

Microsoft and Red Hat are working to ensure customers can get cross-platform support for applications running in virtualized environments. Page 13.

## To patch DNS or not, that is the question

Security researcher Dan Kaminsky told the Black Hat convention that organizations have been slow to react despite bug. Page 32.

## ITRoadmap

### Upcoming ITR

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## Virtual desktops ready for takeoff?

BY JON BRODKIN

Desktop virtualization, with its promises of improved security, manageability and flexibility, may be on the verge of huge adoption, some experts predict.

But as with many new technologies, there is a catch. ROI is one of the main selling points, but desktop virtualization requires significant upfront costs and it can take three or four years to realize financial rewards.

"I see huge interest right now, for many reasons," says Forrester Research analyst Natalie Lambert. "But the challenge is that desktop virtualization is a very costly endeavor. I don't care what people tell you otherwise, they're wrong."

Gartner's latest numbers predict that hosted virtual desktop revenue will quadruple this year, going from \$74.1 million worldwide in 2008 to nearly \$300 million in 2009.

A survey of 340 IT managers found that 41% are already investing in desktop virtualization, and that the technology is

See Virtualization, page 14

## Juniper SRX 5800: Biggest firewall ever

But tests show issues with IPS, management

BY DAVID NEWMAN AND JOEL SNYDER, NETWORK WORLD LAB ALLIANCE

If the Guinness Book of World Records had an entry for "biggest firewall ever," Juniper's SRX 5800 would qualify.

In our exclusive Clear Choice test, this hulking brute of a machine sped traffic at rates approaching 140Gbps through its 16 10Gigabit Ethernet interfaces, making it by far the largest and fastest firewall anyone has ever tested.

But "biggest" isn't the same as "most capable." For example, enabling intrusion prevention caused forwarding rates to drop to 30Gbps, even when handling benign traffic.

And there were issues with security policy management. The Network and Security Manager (NSM) appliance Juniper supplied doesn't yet accept security alerts from the SRX. In other words, it's a security management platform that won't say how or even whether the network is under attack.

As a firewall, the SRX/NSM combo is fine, even for managers of the very largest networks. But because of the lack of security alerts and some serious usability drawbacks in the NSM, we can't yet recommend the system as a combined firewall/intrusion-prevention system (IPS).

See Juniper, page 16

NETWORKWORLD  
CLEAR CHOICE



When configured as a firewall, Juniper's SRX 5800 forwarded traffic at nearly 140Gbps.

Readers describe their must-have products.

# I have raves

RIGHT: Steven Votaw, IT manager at Blue Man Productions, keeps track of BlackBerries with AppRiver Exchange Hosting.

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STEVEN VOTAW





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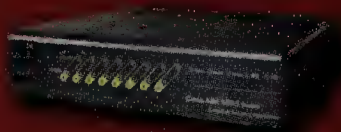
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# NETWORKWORLD

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## COOLTOOLS



■ **BodyGuardz** makes protecting mobile devices from scratches more work than it's worth. See Cool Tools, page 22.

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## GOODBADUGLY

### Broadband over powerline to the rescue

IBM has started building broadband over powerline networks that it says could provide broadband connectivity to 200,000 people living in rural areas. IBM is building out the BPL networks as part of a \$9.6 million deal that it signed last year with broadband provider International Broadband Electric Communications to expand broadband access to people in rural areas that only have access to dial-up services.

### CVS pays price for privacy failures

The largest pharmacy chain in the U.S., CVS Caremark, has settled Federal Trade Commission charges it failed "to take reasonable and appropriate security measures to protect the sensitive financial and medical information of its customers and employees," in violation of federal law. In a separate but related agreement, the company's pharmacy chain also has agreed to pay \$2.25 million to resolve Department of Health and Human Services allegations that it violated the Health Insurance Portability and Accountability Act. The FTC opened an investigation after numerous reports from around the country said CVS pharmacies were throwing trash into open dumpsters that contained pill bottles with patient names, addresses, prescribing physicians' names, medication and dosages.

### Conficker worm gets an evil twin

The criminals behind the widespread Conficker worm have released a new version of the malware that could signal a major shift in the way the worm operates. The new variant, dubbed Conficker B++, was spotted three days ago by SRI International researchers. To the untrained eye, the new variant looks almost identical to the previous version of the worm, Conficker B. But the B++ variant uses new techniques to download software, giving its creators more flexibility in what they can do with infected machines. Conficker-infected machines could be used for nasty stuff — sending spam, logging keystrokes or launching denial-of-service attacks, but an ad hoc group calling itself the Conficker Cabal has largely prevented this from happening.

Readers describe their must-have products.

# RAVEs

RIGHT: **Steven VOTE**, IT manager at Blue Man Productions, keeps track of BlackBerries with AppRiver Exchange Hosting.

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## The stimulus-cable connection

Re: Stimulus bill aims for 'national broadband plan' ([www.nwdocfinder.com/8826](http://www.nwdocfinder.com/8826)): My local broadband is a company with a name derived from a running bird that has a monopoly in my town. Their service and quality stinks beyond description. But, now I am secure in the knowledge that my tax dollars will go to pay for someone else's [crummy] broadband.

You know, the Pilgrims at least had the option of moving to a country where they would be free from tyranny. Alas, today, the Earth is full — nowhere to go. See you in the refugee camp someday, after our currency is worthless and our major cities are smoking radioactive ruin.

Steve

## Fending off overage charges

Re: The case for flat-rate services ([www.nwdocfinder.com/8827](http://www.nwdocfinder.com/8827)): When confronted with financial risk and gouging like this, enterprises are now choosing to "just say no" and wait out our [telecom] operators. When we did the analysis on the iPhone, we prevented adoption due to international data roaming charge structure. Last week we finally received the unlimited international roaming plan. iPhones are now going to be available for our employees and the lesson is: wait out the operators as they actually do need to generate revenue.

For data cards with these killer overage charges, if we don't simply ban their adoption, we are demanding that the gigabytes of data be pooled like our voice minutes are. Our response to "the billing platform doesn't do that" has been "please let us know when it does and we'd love to talk."

Not buying the product is the only leverage we have.

TelecomType

## A better way for Microsoft to spend its money

Re: Microsoft announces \$250,000 Conficker worm bounty ([www.nwdocfinder.com/8829](http://www.nwdocfinder.com/8829)):

A \$250,000 reward to bring the "bad guys" to justice, huh? How about spending \$250,000 on open-sourcing the Windows TCP/IP stack so somebody can fix the holes? How about spending \$250,000 on grafting a BSD network

stack underneath Windows, like MacOSX did?

If bad guys are people who cause grief to Windows users, wouldn't the authors of this lousy code be more bad than those who point out how bad the code is? Remember the ping of death, where sending a jumbo packet to Windows caused an OS crash? This is the same stack, only patchier. Wheeeeeeeee!

Financial adviser

## Healthcare records reform is huge

Re: Obama's Electronic Health Records initiative could usher in a new wave of ID theft ([www.nwdocfinder.com/8830](http://www.nwdocfinder.com/8830)): I work in the IT department of a healthcare system serving five hospitals and multiple physician's offices. We have three of the five hospitals on EMR now and are moving more in that direction. It is a huge undertaking and requires more than just software, but an entire assessment of the infrastructure and large amounts of user training ... and that's just for our little piece of this huge puzzle. However, it definitely is worth it when it comes to reducing costs and mistakes.

My idea would be some kind of a clearinghouse, a third party similar to that which handles the transfer of mobile phone numbers from one company to another. Then, hospitals and physicians would be free to use whatever software makes sense for them, as long as they are able to upload the patient's record in a common format (probably XML or some other standard format). Then, when a request comes in for that patient's record through the third party, the hospital or physician uploads the file in that format to the clearinghouse, which is responsible for verifying the validity of the request from the other side. The other side, once cleared, downloads the file and then is responsible for translating it into whatever format their system uses. This way, we wouldn't be opening up our systems to every single other hospital or doctor's office.

Redwarrior

E-mail letters to [jdix@nww.com](mailto:jdix@nww.com) or send them to John Dix, editor in chief, Network World, 492 Old Connecticut Path, Framingham, MA 01701-9002. Please include phone number and address for verification

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## BLOGOSPHERE

■ **An interview with Microsoft UC GM Betsy Frost.** Alex Lewis writes in his Windows into Silicon Valley blog: "I had a chance to sit down with Betsy Frost, general manager for Microsoft unified communications, at VoiceCon SF 2008 ... For those who missed VoiceCon, Betsy gave one of the keynotes and focused on the value from unified communications. ... UC is without a doubt the future and vendors not embracing a converged strategy are sure to be at a severe disadvantage. During our chat, Betsy stressed UC as a significant cost saving measure and that Microsoft's internal IT operations, (Microsoft Information Technology — MSIT) expects to save \$10 million a year in reduced travel and improved efficiencies."

[www.nwdocfinder.com/8832](http://www.nwdocfinder.com/8832)

■ **Gears is an enticing target for hackers.** The Google Subnet blog reports: "The current trend toward enabling browsers to store more and more data — via not only cookies, but also Flash and Google's new Gears technology — is a ripe invitation to hackers. And since Gears, Google's technology for enabling offline access to online data, stores entire databases of information, it's the prime candidate for concerted malicious attacks — at least according to security researcher Michael Sutton, who presented at last week's Black Hat 2009 conference. According to this report on internet-news.com, Sutton says that cookies are susceptible to client-side cross-scripting attacks that could let insecure cookies from one site read the cookies from another. The good news is that cookies are not that big a target, since they are fairly limited in the amount of data they can hold."

[www.nwdocfinder.com/8833](http://www.nwdocfinder.com/8833)

■ **Apple toys with idea of tiered pricing for the iPhone.** Yoni Heisler writes in his iOnApple blog: "As it stands now, the data plan required for iPhone users stands as a significant barrier to entry for a large number of consumers, a situation only exacerbated in the current economic climate. While Apple CEO Tim Cook has openly stated that Apple would not enter the low-end phone market, a cheaper data plan could be an alternative that Apple would be willing to consider in order to drive up demand. Of course, Apple isn't operating alone, and any thoughts of adjusting iPhone pricing would most certainly be the topic of serious discussions between Apple and AT&T. Keep in mind that AT&T subsidizes every iPhone sold, but makes up that cost over the duration of a two-year subscription." [www.nwdocfinder.com/8834](http://www.nwdocfinder.com/8834)

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### MOBILE WORLD CONGRESS:



#### Solar-powered phones shine

At Mobile World Congress this year Samsung and LG showed off prototype cell phones that can be recharged by solar panels built into the case.

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### MOBILE WORLD CONGRESS:



#### Samsung puts projector into cell phone

Samsung has partnered with Texas Instruments to create a mobile phone with an embedded projector.

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### MOBILE WORLD CONGRESS:



#### HTC launches two Touch devices

HTC launched the Touch Pro 2 and Touch Diamond 2 at last week's Mobile World Congress show in Barcelona, Spain.

[www.nwdocfinder.com/8840](http://www.nwdocfinder.com/8840)

## BEST OF NWW'S NEWSLETTERS

# Stimulus bill aims for 'national broadband plan'

**LANs:** The U.S. economic stimulus package is law — \$787 billion of it — and \$7.2 billion has been set aside for improvements to the nation's broadband infrastructure. Let's take a closer look at what that means. I should note up front that there was much debate about what should be in the bill, and some critics said that getting more competition into the picture to bring down prices might be the better way to go. The final version sets aside \$2.5 billion of the total \$7.2 billion for the "Distance Learning, Telemedicine and Broadband Program." Right off the bat, it's interesting, because you can see that we're not just talking about broadband per se — the government has two applications (distance learning and telemedicine) in mind. [www.nwdocfinder.com/8821](http://www.nwdocfinder.com/8821)

**Tech exec:** Are you a fan of old radio and television shows? Do you appreciate the historical value of original news reels of speeches by John F. Kennedy, Richard Nixon and Martin Luther King Jr.? If you're tired of the endless drivel on YouTube, then why not listen to or view real history on [www.museum.tv](http://www.museum.tv)? This fascinating Web site is brought to you by the Museum of Broadcast

Communications. The streaming media is made possible by unique storage technology from Cleversafe. Bruce DuMont is the president and founder of the museum. DuMont spent much of his career as a television producer. One day at work he discovered a treasure trove of newsreels and tapes of broadcasts of great historical value. [www.nwdocfinder.com/8822](http://www.nwdocfinder.com/8822)

**Network management:** Regardless of the source, the news is the same: the economy has most companies cutting costs and many reducing workforce, or at the very least, demanding more from existing resources. Keeping networks humming along smoothly is challenging in the best circumstances, but under the conditions of fewer budget dollars and overloaded staffers, the degree of difficulty for the job is exponentially increased. Network management vendor Netcordia recently polled 450 network administrators to learn more about their biggest worries in the face of an ongoing recession. In December 2008, the vendor asked customers a handful of questions ranging from network availability to potential workforce reductions. [www.nwdocfinder.com/8823](http://www.nwdocfinder.com/8823)



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# Citrix sets hypervisor free, unveils mgmt. platform

**C**itrix on Monday is making its core virtualization platform free, and announcing an enhanced partnership with Microsoft to promote interoperability between Citrix's XenServer hypervisor and Microsoft's Hyper-V software. XenServer, which previously cost \$3,000 per server, will be given away free and embedded in Citrix's XenApp application delivery software, according to Simon Crosby, CTO of Citrix's virtualization division. While XenServer won't cost a dime, Citrix is introducing a product line called Essentials that will come at a price but provide advanced virtualization management capabilities for both XenServer and Microsoft's Hyper-V. Citrix Essentials will allow virtual machines running on XenServer to be moved over to servers virtualized with Hyper-V, and vice versa. The software will also include automated lab and life-cycle management for virtual machines, giving users self-service access to virtualized server resources. Essentials will cost \$1,500 to \$5,000 per server. [www.nwdocfinder.com/8841](http://www.nwdocfinder.com/8841)

**HP cuts pay, benefits after poor financials.** HP is reducing base pay and some benefits across the company in the wake of disappointing earnings and in an attempt to stave off mass layoffs, chairman and CEO Mark Hurd said last week. Hurd will cut 20% of his base pay while members of the Executive Council will see their base salaries reduced by 15%. Other executives will experience 10% reductions in base pay, and the base pay of all other exempt employees will be reduced by 5%, according to Hurd's internal memo. Reducing headcount on par with declining revenue could equate to 20,000 lost jobs, Hurd said, but instead HP opted to "stabilize our cost structure" by reducing pay and cutting other costs. "I don't believe a major workforce reduction is the best thing for HP at this time," Hurd said in the letter. As for its fiscal first quarter 2009 results, HP reported net revenue reached \$28.8 billion, up 1% compared with the same period last year. Net income came in at \$1.9 billion, down from \$2.1 billion. [www.nwdocfinder.com/8842](http://www.nwdocfinder.com/8842)

**Microsoft wins motion, loses one in Vista Capable case.** Microsoft won a motion to end the class-action status of the Windows Vista Capable lawsuit last week, but lost a motion that could have ended the suit without a trial. The motion to end the class-action status of the lawsuit means the plaintiffs will have to sue Microsoft individually, instead of as a group that could have drawn in potentially thousands of other consumers who felt wronged by the issue. The case centers on claims that Microsoft misled computer buyers with the Vista Capable advertising campaign nearly a year prior to the release of the operating system. Plaintiffs argue they overpaid for computers because of the Vista Capable campaign and that the PCs they bought

could only run the lowest-priced version of Vista, Home Basic. "We're pleased that the court granted our motion to decertify the class, leaving only the claims of six individuals," said David Bowermaster, a Microsoft spokesperson, in an e-mail. "We look forward to presenting our case to the jury, should the plaintiffs elect to pursue their individual claims."

[www.nwdocfinder.com/8843](http://www.nwdocfinder.com/8843)

**Trustwave buys NAC vendor Mirage.** Managed security provider Trustwave bought independent network access control vendor Mirage Networks and will add NAC to the list of services Trustwave provides. Initially the company will support NAC by installing Mirage NAC appliances at customer sites and managing them remotely, the company says. Over time, the Mirage technology will be integrated into Trustwave's managed security platform, a unified threat management device that supports intrusion detection/prevention, antivirus software, e-mail security and fire-walling. Trustwave says it had been getting customer requests for managed NAC services but had no formal program for delivering them. Both companies are privately held, and they did not disclose the purchase price. [www.nwdocfinder.com/8844](http://www.nwdocfinder.com/8844)

**Intel eyes cloud computing with new hardware, software.** Intel is making a push into cloud computing with forthcoming changes in its Nehalem server line aimed at large data-center deployments. Intel hopes to provide technology for low-range and midrange servers that can share workloads effectively if demand for a cloud application spikes, said Jason Waxman, general manager of high density computing at Intel. Server deployments would depend on resources needed by each cloud, with some requiring

faster network connections or more memory. In addition to providing servers that deliver efficient cloud services, Intel wants the servers to be power-efficient and is developing a motherboard that reduces power drawn to 85 watts in idle compared with 115 watts for standard Nehalem-based boards. A reduction of 30 watts per server could save up as much as \$8 million in three years in a deployment of 50,000 servers, Intel said. The upcoming Nehalem-based boards will use Xeon processors due for release later this quarter.

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**Storage start-up Copan gets \$18.5 million.** Investors have poured an additional \$18.5 million into Copan Systems, a storage start-up that sells inexpensive disks to reduce the cost of storing copies of data. Founded in 2002, Copan is on the verge of reaching profitability, with 160 enterprise customers such as Comcast, Facebook, the New York Stock



Exchange and the U.S. government, according to CEO Mark Ward. The additional funding round led by new investor Westbury Partners will help build out distribution channels and bolster the company's engineering organization to ensure key products are delivered later this year. "We're currently an unprofitable company that will be profitable in mid-year of this year," Ward says. "This cash will get us through to profitability and beyond." Copan has raised \$106 million in five rounds of financing since it was founded in 2002.

[www.nwdocfinder.com/8846](http://www.nwdocfinder.com/8846)

**Scientists claim big leap in nanoscale storage.** Nanotechnology researchers say they have achieved a breakthrough that could fit the contents of 250 DVDs on a coin-sized surface and might also have implications for displays and solar cells. The scientists, from the University of California at Berkeley and the University of Massachusetts Amherst, discovered a way to make certain kinds of molecules line up in perfect arrays over relatively large areas. More densely packed molecules could mean more data packed into a given space, higher-definition screens and more efficient photovoltaic cells, according to scientists Thomas Russell and Ting Xu. The pair said they achieved a storage density of 10Tb (125GB) per square inch, which is 15 times the density of past solutions, with no defects. The technology might be commercialized in less than 10 years, if industry is motivated, Russell and Xu said.

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# Federal agencies push new security audits

BY ELLEN MESSMER

Some federal agencies dissatisfied with the current way Congress mandates their networks be evaluated for security, are proposing an approach unveiled Monday that would encourage investment in automated defensive measures.

The proposed Consensus Audit Guidelines (CAG) are 20 security controls that begin with the concept of automated inventory-taking of authorized and unauthorized hardware and software for the purpose of assessing network security. Oriented toward specific technical measures that could be automated, CAG is an effort to gradually shift the federal agencies off the annual security compliance effort known as Federal Information Security Management Act (FISMA), which Congress made law in 2003.

"The federal government FISMA legislation that federal agencies comply with has only proven to be partially successful," says John Gilligan, of consultancy Gilligan Group.

A former Air Force CIO, Gilligan has become a strong backer of CAG, which began last autumn among some in the federal agencies, including the CIO Council, with help from Alan Paller, director of SANS Institute.

Conforming with FISMA requires the inspector general of each agency to lead an evaluation of agency IT systems based on hundreds of pages of guidelines from the National Institute of Standards and Technology (NIST), tasked by Congress to come up with FISMA standards. These confidential FISMA reports are sent to Congress.

As CIO of the Air Force, Gilligan says he found

FISMA focuses on security, though much of it was simply paperwork, and "it didn't help you narrow down, what should I do first?"

Gilligan says he got a handle on what to do first when the "NSA would annually do an assessment of [Department of Defense] systems with their penetration analysis and call together the CIOs, and every time it was the same story: We broke in, it was easy."

He says he's convinced the government would benefit from a new approach requiring very technical steps, perhaps akin to the secure-software configuration effort of the Air Force five years ago.

CAG's list of 20 controls is out for a month's worth of public comment, and it features a broad list of both automated and non-automated practices that include continuous vulnerability testing remediation and secure configurations of hardware, software and network devices.

The CAG recommendation is part of a cyber-security report to the White House.

Gilligan says agencies are intent on bringing agency inspector generals — as well as NIST and Congress — on board to prove CAG will work. To that end, agencies are working to set up "pilot sites" in their production networks where they can demonstrate how CAG controls would work in practice.

The CAG alliance wants feedback on how its guidelines mesh with other government and industry security-compliance efforts, such as the Health Insurance Portability and Accountability Act guidelines from the Department of Health and Human Services or the Payment Card Industry data standards. ■

## The Consensus Audit Guidelines

Here is a sampling of some of the most critical security practices the audit recommends to protect federal and contractor data

- Inventory of authorized and unauthorized hardware and software.
- Secure configurations for hardware and software for which configurations are available.
- Secure configurations of network devices such as firewalls and routers.
- Boundary defense Maintenance and analysis of complete security audit logs.
- Application software security.
- Controlled use of administrative privileges.
- Controlled access based on need to know.
- Continuous vulnerability testing and remediation.
- Dormant account monitoring and control.
- Anti-malware defenses.

Source: SANS Institute/Consensus Audit Guidelines Consortium

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# Global mobile show underwhelms

BY JOHN COX

Whatever your expectations, this year's Mobile World Congress — the premier showcase for the global cellular industry — was noteworthy for undermining them.

Android, the Google-fueled open source operating system expected to reshape the mobile market, was largely missing in action. Only a couple of Android phones were announced at the Barcelona, Spain, event, which organizers said was expected to draw 50,000 attendees.

Windows Mobile, the proprietary operating system expected to be doomed to irrelevance, was the operating system of choice for several high-profile smartphone introductions that supported either the current 6.1 or newly announced 6.5 release.

People expected more attempts at "iPhone killers." Instead, the phone named best of show was an anti-iPhone: the low-cost INQ 1 Social Mobile, unveiled last November, boasts a UI integrated with Web applications and services.

LTE was expected to be ... well, exciting. But despite the live network demonstrations around Barcelona, and Verizon Wireless' promise to have the technology up and running somewhere in the United States by year-end, LTE was a 4G yawn. "We suspect that a workable deployment model for limited spectrum in the robustly propagating 700MHz range will be long in development," wrote Erick Kainer, an analyst with ThinkEquity, assessing the LTE news.

## Android MIA

As for Android, HTC announced its Magic smartphone running the open source operating system. And Adobe Systems announced that Flash Player 10 will be available for Android (and other phone platforms) later this year, allowing handsets to render Flash animation and video on Web sites.

The rest of the Android news was low-level stuff of interest to platform developers. Nvidia allied with the Open Handset Alliance to support the Android stack on its upcoming Tegra chips, designed to create advanced graphics on smartphones while minimizing power use. And Texas Instruments talked up an Android developer kit for its OMAP3 silicon.

The open source platform that got attention: the LiMo Foundation's Linux-based stack. LG Electronics, Panasonic and Samsung all demonstrated mobile handsets using it.

## Windows Mobile resurgent?

By contrast, Microsoft's proprietary Windows Mobile was the platform of choice for a number of high-profile smartphones unveiled at the show, and the company announced a significant upgrade: Version 6.5 with a new look to the UI, and the inclusion of IE Mobile 6, its first full-fledged Web browser for the mobile operating system.

LG Electronics plans to make Windows Mobile (now rebranded to just "Windows") its primary operating system. The company plans to boost its volume of available Windows by 10-fold this year, and has 26 new models on tap for 2012 alone.

At the show, LG announced the LG-GM730, with LG's 3-D S-Class UI, due out in mid 2009 with Windows Mobile 6.1, and an updated version in the second half of the year, with the just-announced Windows Mobile 6.5.

Other Windows phones included HTC Touch Diamond 2 and Touch Pro 2 (HTC created the first U.S. Android phone, T-Mobile's G1), and the recently announced Toshiba TG01.

## The anti-iPhone

But the phone that caught official attention at MWC, winning "Best Mobile Handset or Device" from the judges, was INQ Mobile's INQ1 Social Mobile, first announced last November and now going into expanded global deployment.

INQ is a unit of Hutchinson Whampoa, created to bring to market a very low-cost 3G phone that still would give users a superior Web experience. It's designed to do that by integrating into the phone's user interface a range of Web applications: Facebook, Skype, Windows Messenger and Last.fm. It supports push e-mail and interfaces with Microsoft Exchange and Lotus Domino. The intent was to make social networking and Web access much faster, smoother and more intuitive.

The proprietary operating system incorporates Qualcomm's Java-based BREW application development framework.

In the United Kingdom, the phone costs about \$115, or is free with a monthly service contract of about \$21. Comparable smartphones are closer to \$200 when subsidized by carriers, and often require one- or two-year service contracts.

## Integration: the new "wow-factor"

INQ isn't alone in integrating the handset user interface with the applications available

on the mobile Web. Microsoft took another step with its news of the Windows Marketplace for Mobile, an application store that will be installed on all future Windows Mobile 6.5 devices. It also announced the free My Phone service, which offers Web-based automatic backup and synchronization of phone data and content.

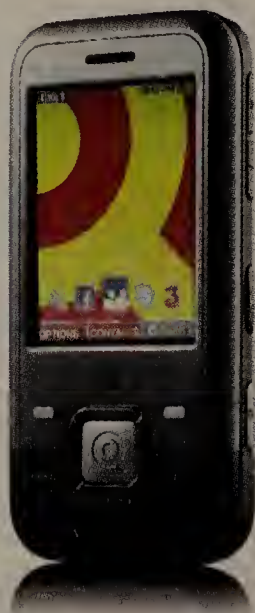
Nokia expanded the breadth of its own online service offerings, branded Ovi, by announcing the Ovi Store, which will be accessible to vast numbers of S40 and S60 Nokia devices. Going beyond Apple's App Store, the Ovi service will be able to key applications to a user's new location, and let users see what their contacts and friends have been downloading from the store. The store will open in May in nine countries.

In a related move, Nokia is working with Skype to create a VoIP client for Nokia's just-announced, top of the line, S60-based N97 mobile computer. The client will work with the device's address book, just as it does on the INQ1, to make placing calls to Skype users as simple as making a cell call. The software will be available in the third quarter.

That emphasis on mobile integration is the key to Palm's Pre smartphone, due out in the next month or so, and its new webOS software. At MWC, Palm showcased the UMTS version of the Pre. And it released online the first chapter of a new book from O'Reilly Media, "Palm webOS: Developing Applications in JavaScript Using the Palm Mojo Framework." It was the first step in publicly revealing details of the software platform. The company also joined Adobe's Open Screen Project, to incorporate Adobe Flash Player with the webOS software by year-end.

Palm has claimed that any developers familiar with common tools like Cascading Style Sheets, XHTML, JavaScript and the like easily will be able to create applications that can run on the Pre. The webOS itself is multitasking, and Palm has demonstrated the Pre's Palm Synergy application, a program that creates a single, integrated means of tracking and organizing multiple online calendars, contacts and messaging applications. If you update a contact on your Palm Pre, Synergy updates the same data on any of your online accounts.

That approach suggests a direction for enterprise mobile development. Many of the handsets and operating systems are aimed at consumers. But the need for what could be called "intuitive integration" is even more pressing on the enterprise side, coupled with stringent security requirements. This year's MWC, almost in spite of itself, has given an outline of a promising new emphasis in enterprise mobile computing. ■



**The INQ1 Social Mobile is a low-cost 3G phone with a set of tightly integrated social networking and Web apps.**



# Microsoft, Red Hat virtually partners

BY ELIZABETH MONTALBANO,  
IDG NEWS SERVICE

A virtualization deal struck last week between Microsoft and Red Hat shows the growing need for vendors to ensure customers can get cross-platform support for applications running in virtualized environments.

Under the terms of the deal, outlined in blog posts by Microsoft Senior Open Source Community Manager Peter Galli and Microsoft Virtualization General Manager Mike Neil, both companies will validate and offer customer support for each other's operating systems on their virtualization technologies.

Specifically, Microsoft will offer customer support for Red Hat Enterprise Linux 5.2 and 5.3 guests on all editions of Windows Server 2008 Hyper-V and Microsoft Hyper-V Server 2008. For its part, Red Hat will support customers running Windows Server 2003 SP2, Windows 2000 Server SP4 and Windows Server 2008 guests on Red Hat Enterprise virtualization technologies.

The companies also will offer cooperative technical support for customers running Windows Server on Red Hat Enterprise virtualization and Red Hat Enterprise Linux on Windows Server 2008 Hyper-V. Future versions of these products will be validated under the agreement.

Stephen O'Grady, an analyst with open source research firm RedMonk, says the deal underscores how even competitors have to cross party lines to support virtualization, which is becoming an integral part of data centers that, more often than not, include both Windows- and Linux-based servers.

Virtualization enables companies to cut IT costs by allowing more than one operating system on a physical server by running software in virtualized containers. The technology lets a customer run applications on both Linux and Windows on one piece of hardware.

O'Grady notes that support for enterprise applications still hinges on what operating system an application is running on. "If you talk to application vendors, their support depends on an application platform," he says. "They'll support the app on Windows, on RHEL [Red Hat Enterprise Linux], but that's as far as that goes."

Because software can be running on one virtualized operating system — RHEL, for instance — that runs physically on a server run-

ning another operating system, such as Windows, it's important for customers to know that both Red Hat and Microsoft will support them in such a scenario, O'Grady says.

"If I'm running RHEL virtualized on top of Windows, I need to make sure I'm supported commercially on every step of the way," he said. "Virtualization pushes the boundaries of support and requires that vendors work well and effectively together."

There is no love lost between Microsoft and

agrees. However, Microsoft spokesman Patrick O'Rourke says there was nothing odd about it. Because the deal was aimed at a worldwide audience, the timing "worked well for most other countries" outside the United States. A Red Hat spokeswoman did not reply immediately to request for comment on the deal's timing.

Also curious is what the deal does not include: the exchange of intellectual property or "financial clauses" between the companies, except for "industry-standard certification/validation testing fees," according to Red Hat's press release.

No doubt Red Hat wanted to clarify that its deal with Microsoft is not the same as the one Microsoft struck with Linux distributor Novell two years ago, which did include exchange of IP and cash. At the time Red Hat executives said they were not interested in striking such a deal. In addition to ensuring interoperability between Novell SUSE Linux and Windows, the Novell deal indemnified users of Novell's Linux against any claims of patent infringement for any Microsoft patents SUSE Linux might include.

IP is a particularly thorny issue between Microsoft and Red Hat, exacerbated not only by the Novell deal but also by claims made by Microsoft CEO Steve Ballmer in May 2007 that Linux violates more than 235 patents Microsoft holds.

In response, Red Hat said its customers are protected by any patent claims by its Open Source Assurance Program, and many Linux proponents called Microsoft's claims an attempt to spread fear, uncertainty and doubt among customers who purchase open source software in order to promote its own proprietary software.

O'Grady says it was probably Red Hat that lobbied hard against including IP-sharing in the deal to maintain its stance against the Novell deal and Microsoft's patent-infringement claims.

"This is a different deal than Novell signed," he says. "It's far less controversial." ■

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Red Hat, which have traded barbs for years as fierce competitors with fundamentally different views of how software should be developed and distributed.

This may explain why the companies chose to unveil the pact — their most significant and public partnership to date — last Monday, a public holiday in the United States when many people had the day off from work. Companies typically will release news they hope will be overlooked by major news outlets on public holidays.

"I found the timing a little odd," O'Grady

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## Virtualization

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a "critical priority" for 22%, according to IDC Research Services Group.

Respondents were virtualizing 6% of desktops at the time of the survey, and expected to virtualize one-third by 2010. But the survey was conducted in April 2008, so recent economic changes could affect those numbers.

"Is [desktop virtualization] going to break out in 2009? I don't see any reason it would," IDC analyst Michael Rose says. "Frankly, the current economic environment is going to be a significant barrier for adoption of virtual desktops in the data center."

True ubiquity could take another five years, given current financial problems and the nature of PC refresh cycles, he says.

Nonetheless some early adopters are reporting success, with users embracing the notion of being able to access desktops from multiple locations and multiple devices.

"[Virtualizing desktops] is going to save us \$250,000 per year that we were spending on desktop refreshes. There were some upfront costs, but we figure there will be a two-year ROI," says Dustin Fennell, CIO of Scottsdale Community College in Arizona.

Additionally, vendors such as VMware and Citrix are working on new ways of providing virtual desktops, which they believe will spur greater adoption.

In virtualized desktop environments, the operating system, applications and associated data are abstracted from the user's PC. Broadly speaking, there are two types of desktop virtualization. Local desktop virtualization runs the entire desktop environment in a protected "bubble" on a user's PC. Hosted desktop virtualization stores the users' desktops in the data center, requiring users to access their desktop images through a network connection. Within these categories are several sub-types.

In the hosted desktop virtualization realm, enterprises can store virtual desktops on a standard server accessed by multiple users simultaneously, or a PC blade architecture in which each blade typically serves one user at a time. Users can connect to their desktops using thin clients, laptops or regular desktops, but hosted desktops usually preclude offline access.

Local desktop virtualization is achieved either with a bare-metal, or Type 1, hypervisor, or a Type 2 hypervisor that is installed on top of the PC's operating system. Bare-metal hypervisors are not yet widely available, but vendors say they will provide better security than Type 2 hypervisors, because the bare-metal type runs independent of the client operating system. They also deliver better performance than hosted desktops, because applications run on the local client instead of a remote server. Bare-metal hypervisors are being developed by VMware and Citrix as well as start-ups Neocleus and Virtual Computer. Citrix and VMware plan to release their bare-metal hypervisors in

## DESKTOP VIRTUALIZATION ON THE RISE

- **Hosted virtual desktop revenue will quadruple worldwide to nearly \$300 million in 2009.**
- **41% of companies surveyed are already investing in desktop virtualization.**
- **At 22% of companies, desktop virtualization is a "critical priority".**
- **6% of desktops have been virtualized.**
- **34% will be virtualized by 2010.**

SOURCES: Gartner; IDC Research Services Group survey of 340 IT managers

the second half of this year, while Virtual Computer is in beta and Neocleus has released a limited version of its hypervisor.

Local virtualization makes sense for mobile workers, who can be given separate operating systems, one for business use and one for personal use, says Sumit Dhawan, vice president in the desktop delivery group at Citrix. But local virtualization has so far relied on Type 2 hypervisors, and hasn't taken off partly because there is no true independence between virtual machines, he says. When the hypervisor is installed on top of the operating system, all data that goes to the guest operating system must first travel through the primary operating system, and this overhead impacts performance, he says.

Citrix is collaborating with Intel on its bare-metal hypervisor, which Dhawan says will provide great performance for users as well as the convenience of central management for IT administrators. Unlike Citrix XenDesktop, which is hosted in the data center and affords no offline access, the planned bare-metal hypervisor will let users work offline and synchronize changes from a standardized corporate image when they log on.

VMware is creating a bare-metal hypervisor that runs on each user's machine yet gives IT a "golden image" that can be managed centrally. VMware's long-term goal is to merge the two concepts of hosted and local desktop virtualization, dynamically moving the desktop image back and forth between the device and data center, says Jerry Chen, VMware's senior director of enterprise desktop virtualization.

Neocleus, meanwhile, will release its full product in beta next month and is promising far better security than exists in most desktop environments. In addition to separating personal and business computing into separate operating systems, each operating system will run in its own "bubble," which, if infected, could be deleted, preserving the integrity of the machine, the company says. Centralized man-

agement tools will let IT pros set policies preventing users from accessing devices or applications, and governing interactions between virtual machines.

Neocleus plans to charge \$50 to \$100 per desktop. The premium version of VMware View costs about \$250 per virtualized desktop, Chen says.

## Running the numbers

To figure out the ROI for a desktop virtualization project, an IT shop has to take multiple factors into consideration. Virtualization might be used to extend the life of older desktops, resulting in up-front savings. On the other hand, a virtualization project might include purchasing of thin clients or other new devices. Additionally, a hosted desktop model requires servers or PC blades to host desktops and networked storage to support virtual machines.

Anecdotally, Forrester analysts have found that enterprises spend about \$860 per user, plus network upgrades, to get a desktop virtualization project up and running in the first year.

Despite healthy revenue projections, the hosted virtual desktop market will experience "growing pains" throughout this year and early 2010, according to Gartner. Cost savings amount to about 3% to 10% compared with a well-managed, secure desk-based PC, the analyst firm says.

"Most customers, particularly those hard-pressed because of economic conditions, will find it difficult justifying the additional capital needed for the infrastructure build-out," Gartner writes. "New and sizable investments in the areas of storage, networks, servers, power, cooling and other infrastructure will press organizations into early investments."

Hosted virtual desktops will become less costly over time as vendors develop better management technologies, Gartner says.

At Scottsdale Community College, Fennell installed XenDesktop and other Citrix technologies both to virtualize college-owned desktops and provide remote access to students and teachers with their own devices. Previously, some students had to travel to campus even when they didn't have class, just so they could use certain applications.

In addition, patching desktops is easier and the college is extending the life of some older desktops by treating them as thin clients. The college can support 500 concurrent users on 12 physical servers, but is looking to scale that number up significantly.

"We needed something that would poise us to spend our money more wisely than just replacing black boxes," Fennell says. "We wanted a strategy that would not only update our technology but at the same time increase users' access."

HP officials, who are selling blade PCs bundled with Citrix virtualization software, acknowledge that virtualization typically involves more upfront cost than a PC refresh, but say many customers start reaping financial benefits after little more than a year. ■



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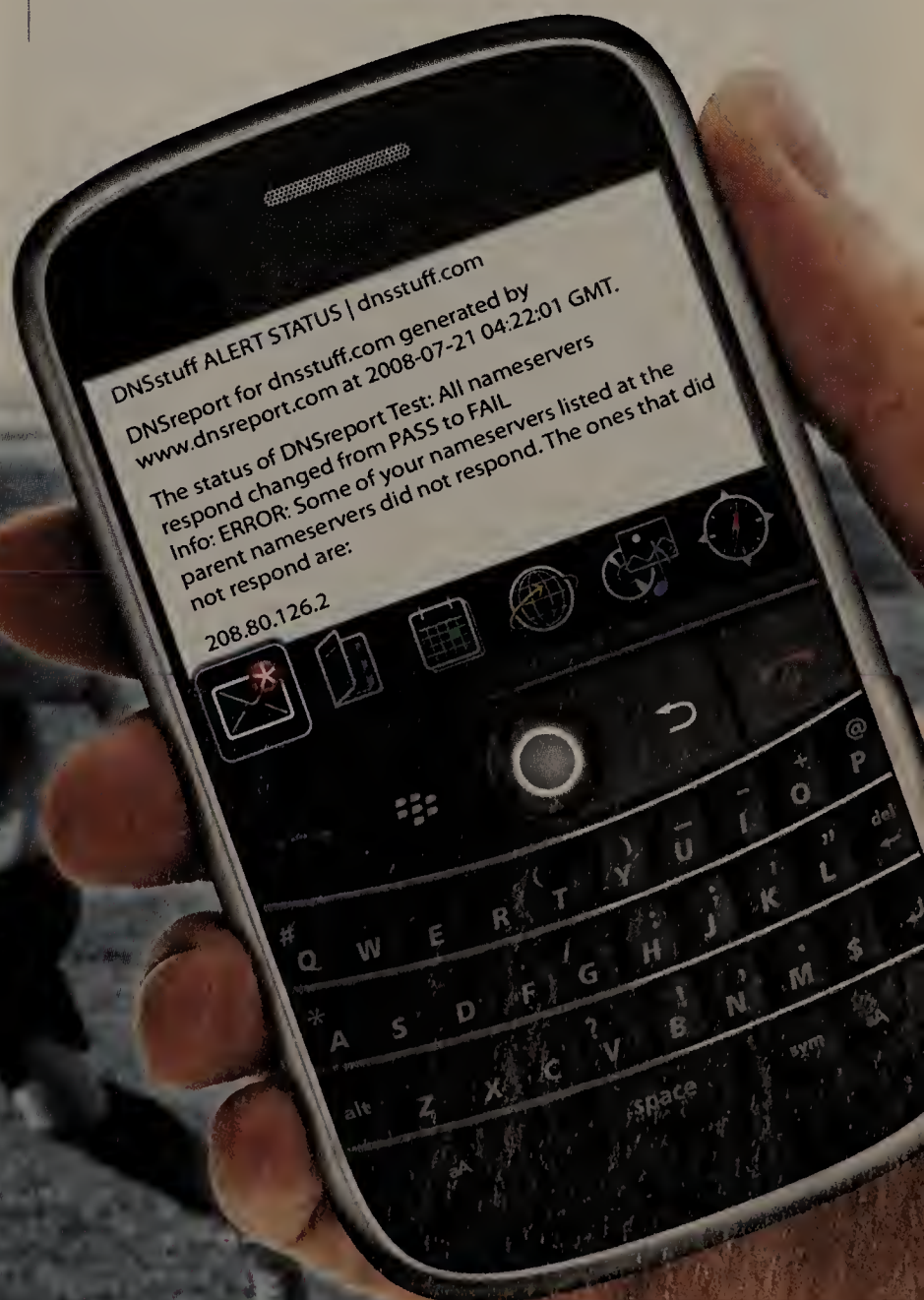
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# CLEAR CHOICE TEST JUNIPER FIREWALL

## Juniper

continued from page 1

The SRX 5800 is a chassis-based system. Pre-populated with two switch control boards to manage inter-card communications, it's up to the customer to insert I/O cards or Service Processing Cards (SPC) as needed. The I/O cards come in two flavors: four-port 10G Ethernet or 40-port 1-gigabit Ethernet. You can mix and match I/O cards with the SPCs, which handle services such as firewall and IPS. (See how we conducted our test at [www.nwdocfinder.com/8837](http://www.nwdocfinder.com/8837).)

While this system is clearly aimed at nonstop environments, Juniper hasn't gotten all of its hot-swap technology in the single-chassis version. You can't insert or remove cards without interrupting traffic flow. Juniper's solution is chassis clustering — linking two of these monster boxes into a cluster that lets you take a chassis down for maintenance, upgrade or repairs, while still passing traffic.

The SRX's operating system is JunOS through-and-through, with firewall and IPS features from Juniper's NetScreen acquisition layered on top. If you like managing routers from the command line and have a modest firewall policy, you'll take to the SRX 5800 right away. It's got the JunOS you love, a rock-solid stateful firewall and the fastest performance of any firewall on Earth.

### Performance metrics

When Juniper initially told us it would supply its SRX 5600 firewall, a 60Gbps system, we sized our test bed accordingly. So it was a bit of a surprise when the company instead sent the larger SRX 5800, which its data sheet lists as a 120-Gbps firewall. Both systems support as many as 16 10G Ethernet interfaces, but the 5800 offers twice the forwarding capacity — and twice what our test bed could generate in terms of TCP traffic. Juniper populated this chassis with eight of its dual-CPU SPCs, completely filling the 14-slot chassis.

Although the test bed at Spirent's Sunnyvale SPOC lab offered "only" 80Gbps of TCP traffic for this particular project (using 16 Spirent Avalanche 2900 appliances), we were able to fully exercise the SRX 5800 by offering up to 160Gbps of stateless UDP traffic (using a Spirent Test-Center traffic generator/analyzer). We ran separate sets of TCP and UDP tests, and assessed the system's features and usability.

The UDP tests demonstrated the SRX 5800's high capacity. In tests with maximum-length 1,518-byte frames, throughput was more than 137Gbps, with average latency of 76 microsec. Enabling network access translation (NAT) on the firewall exacted no performance penalty; both throughput and latency were virtually identical as in the no-NAT case.

The system was far slower when handling 64- and 256-byte frames, with throughput of 6.9G and 29Gbps respectively. Average latency also was higher, at 152 and 292 microsec for 64- and 256-byte frames.

But lower performance with UDP isn't necessarily a problem for most users. UDP represents 5% or less of total Internet traffic, according to samples observed by CAIDA and other sources. TCP forwarding capability is a far more meaningful performance metric for most security devices.

To assess TCP performance, we configured the Spirent Avalanche appliances to act as Web clients and servers, with 2,400 emulated users each requesting 512-kbyte objects through the firewall. We ran this test repeatedly, in a variety of configurations.

- As a firewall alone, the SRX 5800 is a stellar performer. It moved HTTP traffic at an aggregate rate of 78Gbps, the maximum possible from our test bed. We didn't enable NAT, but given the results of our UDP tests we don't believe there would be any performance penalty for doing so. Response times held steady throughout the test, with users getting their objects in an average of 131 millisec.

- When we enabled IPS, it was a very different story. Aggregate forwarding rates plummeted from 78Gbps to around 30Gbps even with no attack traffic present. We enabled the 252 attack signatures Juniper recommends, those representing major and critical events. Again, this test was run only with benign traffic. Thus, users who need intrusion prevention can expect a major performance hit even before any attacks come along. This was not unexpected, though: Juniper's own data sheet offers

## NETRESULTS

**Product** Juniper SRX-5800

**Vendor** Juniper  
[www.juniper.net](http://www.juniper.net)

**Price** \$1,268,000, plus \$10,000 for NSM management appliance

**Pros** JunOS routing engine plus firewall, all in one ultra-fast package, scalable to nearly 140Gbps of firewall performance.

**Cons** Intrusion-prevention system, which combines poor management and poor performance.

**Score** 3.6

## SCORECARD

Action	Weight	
Routing and switching	20%	5
Firewall	20%	4
IPS	20%	2
Overall performance	20%	4.5
CLI management	10%	4
NSM management	10%	1
<b>Total score</b>		<b>3.6</b>

**Scoring key:** 5: Exceptional; 4: Very good; 3: Average; 2: Below average; 1: Subpar or not available.

30Gbps as the speed to expect with the SRX 5800.

- Running the same configuration with NAT and intrusion detection produced virtually the same result as intrusion prevention alone. Moreover, response times were only marginally higher than when the SRX was configured as a firewall alone, with users getting their objects in 160 millisec or less.

However, these tests were all done with Juniper's recommended IPS policy, a carefully selected and tuned policy designed to balance security with connectivity and performance. One important part of these policies is that they are focused on client-to-server interactions. In other words, they identify malicious traffic aimed at servers but do not catch server-to-client malware. Because our test traffic was largely HTTP, that means the IPS spent most of its time looking at attack traffic to the Web servers, only about 650Mbps. The rest of the traffic coming from the Web server, more than 29Gbps, while subject to some inspection for protocol anomalies and other lower-layer attacks, was not examined in-depth by the IPS.

- When we added in server-to-client protections from Juniper's IPS signature library, performance dropped even further, to as little as 8Gbps. The lesson is clear: be very careful what IPS policy you use, because picking the wrong elements can dramatically affect performance.

If packet inspection alone caused a traffic slowdown, then the results with actual attacks present can only be described as gridlock. Using a Spirent ThreatEx security assessment tool, we aimed 13 UDP-based

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# CLEAR CHOICE TEST JUNIPER FIREWALL

attacks at targets behind the SRX firewall while continuing to offer benign Web traffic from the Avalanche appliances.

Picking a "typical" attack level is fairly difficult. Some experts suggest that between 1% and 3% of Internet traffic can be categorized as malicious traffic of the type you would expect an IPS to identify and filter. Because the SRX 5800 topped out at about 30Gbps with IPS enabled, 600Mbps of attack traffic would represent about 2% of the total.

Initially we offered the UDP attacks at a maximum rate of 660Mbps. Instead of reaching the 30Gbps SRX limit with IPS enabled, traffic rates fell to a paltry 160Mbps, and did not fully recover once we stopped the attack. The SRX's CPUs were all nearly 100% utilized during the attacks.

Juniper expressed surprise at these results. Juniper was able to reproduce the problem in its labs, and the company believes we saw the dramatically lower throughput because our UDP attacks had filled up the session table of the SRX 5800, which has a maximum of 4 million entries. Because of the size and complexity of the hardware and test lab setup, we were unable to revisit this test and verify Juniper's claims.

Because an attack at 660Mbps represents a heavy barrage in anyone's book, we repeated the attack at the far lower rate of 10Mbps. That's not 3% attack traffic, but 0.03% attack traffic. This level of directed attack is very credible — a few dozen compromised PCs on cable modem or DSL connections can easily generate 10Mbps of stateless attack traffic. The 10Mbps traffic has another advantage: at a mere 4,000 sessions/second, we weren't going to fill up the SRX 5800's session table in our two-minute test. Forwarding rates plunged again, this time to less than 2Gbps, and traffic again fully taxed the system's CPUs.

We should note that the SRX was configured only to inspect packets, not to try to mitigate any attack. But because even a relatively light load of 10Mbps of attack traffic caused the whole system to become CPU-bound, it's unlikely that enabling mitigation features would have significantly altered the outcome.

## IPS management falls short

As part of the integration of firewall, VPN and IPS security features from its Netscreen product line into JunOS, Juniper has extended its security management tool, Netscreen Security Manager, to cover the JunOS platform, while re-badging the product as Network and Security Manager. (See related story, right.)

While trying to manage the SRX 5800, we found ourselves stumbling through an unusable configuration interface and inconsistent attack databases. Worse, we were completely blind when it came to IPS management, an unacceptable position. The combination of poor IPS performance along with difficult configuration and nearly impossible management suggest that while the SRX 5800 may be a fine, speedy firewall, the IPS should not be used until Juniper resolves significant and substantial manageability problems.

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## THANKS

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## Manageability problems

**O**ur woes with Network and Security Manager began when we tried to use it to manage the SRX 5800. With eight years of experience using NSM in Opus One's labs, we were looking forward to the unification of JunOS and ScreenOS management. We started out needing to change IP addresses, a common enough task. For a ScreenOS system, this takes three clicks: two clicks to see a summary interfaces and IP addresses, and a third to begin editing.

The SRX 5800 was not so easy. It's impossible to get something as simple as a list of interfaces and their IP addresses. You have to find the physical interface, and then click through a series of submenus just to find out what the IP address is — nine of them. And if you know the IP address but can't remember which port it's connected to, you might as well give up and use the command line to figure it out, because NSM would make you click through eight levels of menus just to see each IP address.

Where NSM does excel is in security policy definition. We were relieved to see that the normal NSM tools for creating and editing policy could be applied to the SRX 5800 — that is, until we tried to turn on network address translation (NAT). Now, you can turn on NAT in the security policy and push that policy with NSM, but it doesn't do anything on the firewall. No error message, no warning and no NAT. We only discovered NAT wasn't working when we started doing packet dumps to debug a different problem.

The SRX 5800 does support NAT, but you have to go back to the nine-levels-deep style of configuration. The experience is about as pleasant as poking values into an SNMP-managed switch by hand — and, of course, about as error-prone and difficult to document. We ended up using shortcuts provided by Juniper's engineers, putting the NAT configuration in using the JunOS command line, and re-importing the device into NSM.

We then tried to create an intrusion-prevention system (IPS) policy and ran into another problem in NSM: inconsistent databases. We selected Juniper's recommended security policy and tried to push it to the SRX 5800. Immediately, NSM threw back errors — the SRX 5800 had a different set of policy elements than NSM thought. We had to go through the policy by hand and re-craft it so that the signatures missing from the SRX 5800 were not being selected in order to get a clean policy download.

The final nail in NSM's coffin, at least for this version, came when we wondered how well the IPS was working. In a normal ScreenOS deployment, there is a nicely designed workflow that feeds back information from the IPS into the NSM console. This lets the security manager see how the IPS is performing, and then immediately and easily make policy changes. With the SRX 5800, this workflow is broken: security alerts cannot be sent to NSM.

Instead, Juniper told us that we should send security alerts to a SYSLOG server. We found that answer unacceptable: When the alerts are sent to a SYSLOG server other than NSM, the workflow process is broken, and managing the IPS policy and interpreting its results becomes an impossible task. Centralized logging has to be coordinated with NSM, especially in the area of intrusion prevention. In the past, we've lauded Juniper for the value that NSM brings to an IPS deployment. With the SRX 5800, Juniper takes a giant leap backward in IPS management.

— DAVID NEWMAN AND JOEL SNYDER



# Sprint offers a robust foundation

*Sprint announces Global MPLS and SIP Trunking services to support Microsoft Office Communications Server 2007 Release 2 and puts the technology to use internally to improve productivity and save millions.*

**I**n these challenging economic times, organizations are looking to cut costs wherever they can—and to get near-immediate payback from any investments they do make. At first blush, that may seem like a hostile environment for launching new IT initiatives. But when those initiatives provide payback in less than a year—and ongoing productivity improvements and cost savings thereafter—they're the kind of investments any company would be eager to make.

Unified Communications (UC) technology not only promises just that kind of savings, it delivers. The technology provides the ability to integrate various forms of communications—including voicemail, e-mail, instant messaging, audio and video conferencing—with presence capabilities that make it easy to see who is available when. Add to that advanced, IP-enabled calling features such as number mobility, "find me, follow me" and personalized call routing, and it's easy to see how UC can vastly improve productivity, by making it far easier for employees, customers and partners to get in touch with one another and get things done.

For a commissioned study conducted on behalf of Microsoft, Forrester Consulting interviewed 15 companies that use Microsoft Unified Communications products and services and applied its Total Economic Impact™ (TEI) methodology to a composite organization meant to represent the collective experiences of all 15. The composite organization, with 4,000 employees and \$900 million in annual revenue, realized an ROI of 563% on its UC deployment—even adjusted for the inherent risks associated with the project.

While the total benefits Forrester tallied amount to nearly \$57 million (see chart), the cost of the project was only \$6.8 million, including all hardware, software, professional services, training and internal administration.

Sprint can echo those findings. The company's internal IT department will realize savings of more than \$6 million per year in telecom costs alone from its deployment of Microsoft Office Communications Server 2007, which is bringing Voice over IP (VoIP) and Unified Communications technology to nearly 500 Sprint offices nationwide.

Sprint's UC strategy reflects the company's ability to enable its partners' UC solutions with best-in-class convergence solutions, including:

- Sprint Global MPLS virtual private network service: A secure, robust and reliable transport network.
- Sprint SIP Trunking: A pure, Session Initiation Protocol (SIP)-based IP service that includes local and long-distance services.
- Sprint Wireless Integration: Technology that makes Sprint CDMA phones full participants in an enterprise UC environment, with the same capabilities as desktop phones.

## **Sprint and Microsoft, working together**

Sprint is also working with Microsoft to help deliver to customers the same kinds of benefits Sprint IT receives. Sprint Global MPLS and Sprint SIP Trunking services complement Microsoft Office Communications Server 2007 R2, providing the kind of reliable, high-performance wide-

area network services that UC requires.

For its part, Microsoft offers best-of-breed Unified Communications technology, landing in the leaders' quadrant in Gartner's September 2008 report, "Magic Quadrant for Unified Communications." With Microsoft Office Communications Server 2007, users gain sophisticated communications capabilities from within the familiar interfaces of Microsoft Office System applications, making it simple to take advantage of the benefits Unified Communications has to offer.

## **End-user benefits**

For end users, those benefits are many. Presence capabilities enable users to easily see the status of others, such as whether they are online and available, in a meeting or out of the office. Click-to-call lets them literally click on a user's name from within an application to initiate a phone conversation.

Office Communications Server 2007 R2 also supports mobility in various ways. Workers located anywhere with a high-speed Internet connection can make or receive calls from their PCs as if they were in the office. Because the entire UC infrastructure is available from anywhere, users can significantly improve their response time to important calls or e-mails from colleagues, partners and clients.

Users can also quickly move from one form of communications to another as needs dictate. If they're on a phone call with a colleague and need to share a document, with just a few button clicks, both workers can be in a Microsoft Office LiveMeeting session, viewing and editing the document.

Similarly, it's a simple matter to switch from instant messaging (IM) to a voice call to a videoconference. With both desktop and room-based videoconferencing available and simple to use, companies now have a real opportunity to reduce travel costs.

**Sprint's internal UC effort is expected to save \$6 million per year in local carrier charges, plus another \$2 million every 18 to 24 months by obviating the need for PBX upgrades and maintenance.**

## **Benefits to IT**

UC also provides significant benefits to the IT department. Microsoft Office Communications Server 2007 provides a simple, reliable platform for implementing VoIP that can lower telephony costs by enabling calls to be carried over the same wide-area infrastructure used for data—such as the Sprint Global MPLS network. Customers can also avoid outfitting each employee with an expensive desktop phone, enabling them to instead attach a headset to their desktop or laptop computer and enjoy the various benefits that brings, including click-to-call.

Organizations that have already implemented VoIP can maximize their investments by adding advanced UC capabilities. Microsoft Office Communications Server 2007 is a single platform that combines multiple UC applications on its own and integrates seamlessly with other Microsoft offerings, including Microsoft Exchange Server 2007 and Active Directory. That makes Office Communications Server 2007 simpler to deploy than alternatives that require patching together applications from multiple vendors.



# for Unified Communications

## The Sprint advantage

Sprint adds additional benefits to a UC implementation with its mix of wide-area network services and integration work with partners like Microsoft.

The Sprint Global MPLS offering provides the foundation for supporting highly secure real-time applications, a critical element for any enterprise UC implementation. Sprint's Global MPLS network is a high-performance, reliable offering that is also simple to price and implement. Customers pay only a port and access charge, with no additional fees for the quality-of-service levels required to support real-time applications.

Sprint SIP Trunking provides connections to UC infrastructure based on the SIP signaling protocol for setup and teardown of multimedia communications sessions over the Internet. SIP enables compliant equipment, such as IP PBXs, to make calls directly over the Internet, with no need for the Internet-to-PSTN gateways required with some PBX-based implementations. Sprint SIP Trunking supports Microsoft Office Communications Server 2007 R2, adding to existing support for equipment from Avaya, Inc., Cisco Systems, Inc. and Nortel Networks.

Sprint Wireless Integration enables users to fully integrate their Sprint CDMA handsets with the IP and UC infrastructure. Even when a call is placed directly to the wireless handset, users have all the functionality of the UC environment at their disposal. That means calls can be transferred seamlessly between mobile phones and desk phones. Users can also configure incoming calls to ring both their mobile and desk phones simultaneously, and have the call connect to whichever phone answers. Sprint Wireless Integration is available today with Cisco and Avaya.

## Sprint puts UC to work

Sprint is also making investments in UC technology for its own internal use, as the company is in the process of deploying the technology to some 489 offices nationwide, says Joe Hamblin, manager of unified communications for client services in Sprint's IT organization. When fully deployed, the effort is expected to save the company \$6 million per year in local carrier charges, plus another \$2 million every 18 to 24 months by obviating the need for PBX upgrades and maintenance.

Sprint embarked on its UC project to replace a legacy PBX infrastructure and to deal with an increasingly mobile workforce. The company piloted Microsoft Office Communications Server 2007 and was attracted to the cost equation it presented. Under the PBX configuration, the monthly costs for a typical 100-person office included:

- Two ISDN PRI circuits at \$800 to \$1,200 each
- A "last mile" VPN circuit at \$400 to \$800
- Last-mile voicemail circuits at \$400

The pilot showed all of that could be replaced with a single Sprint SIP Trunking circuit and a server running Microsoft Office Communications Server 2007 R2, resulting in significant cost savings at each location.

After field trials in August and September of 2008, Hamblin's team initially began converting two to four sites per week, and is now up to six to eight sites per week. Already, though, the benefits are clear.

Employees find it easy to employ UC features because they are tightly integrated with the Microsoft Office System applications they routinely use. From the Office Communications Server client, they can instantly see the availability status of colleagues, then use the most appropriate means of communications. With a click on a name, they can initiate an IM session, and elevate that to a voice, video or

## Tallying the savings from Microsoft Unified Communications

Forrester Consulting cites the following savings for a composite organization representing the experiences of 15 companies it surveyed. Savings are over a 3-year period.

Productivity improvements for individuals and workgroups:	<b>Nearly \$20 million</b>
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Travel cost savings:	<b>Nearly \$15 million, conservatively</b>
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Reducing the time to complete projects:	<b>About \$15 million</b>
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Shortened sales cycle:	<b>\$5 million</b>
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Reduced costs for dial-in conferencing and lower telephone call costs:	<b>\$1.8 million</b>
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SOURCE: "The Total Economic Impact of Microsoft Unified Communications Products and Services," October 2007, a commissioned study conducted by Forrester Consulting on behalf of Microsoft.

conference call with another click or two.

That kind of ease of use has LiveMeeting catching on quickly. "In November, we conducted over 19,000 LiveMeeting sessions on our internal OCS platform," Hamblin says.

Mobile phones are likewise tied in, as users can enter their mobile phone numbers and have calls to their desk phone simultaneously ring both lines, or forward calls to their mobile, home or any other number.

Whenever users have their laptops with them and access to a broadband Internet connection, they can make and receive calls and use all the other tools as if they were in the office. "We look at it as work is not someplace you go, but something you do," Hamblin says.

Sprint's UC implementation also enables a \$50 headset to replace a \$500 handset – a significant savings when you're dealing with thousands of employees.

## Leading the way to UC

UC technology can help any company improve productivity while reducing costs. Companies always welcome the opportunity to save money, but it's even more important in a challenging economy. Indeed, the IT dollars they save with UC may well turn into investments that generate crucial new revenue, while productivity gains help them become more nimble, responsive and successful.

With its combination of Global MPLS infrastructure, SIP Trunking and the advanced mobility technology that Sprint Wireless Integration brings, Sprint can deliver the reliable, high-performance communications infrastructure that is crucial to any successful UC implementation. And Sprint has put the effort into integrating with leading UC software providers like Microsoft so that every deployment can be confident their software will work with the Sprint infrastructure. Sprint's even got the hands-on, "walk the talk" experience within its own IT team to prove it.

Learn more about Sprint services that support Unified Communications.

Visit: [www.sprint.com/convergence](http://www.sprint.com/convergence)



# FTC principles for behavioral advertising



**NET INSIDER**  
Scott Bradner

**T**he Federal Trade Commission recently published a somewhat tweaked set of self-regulation guidelines for companies collecting information on the actions of Internet users for the purpose of providing advertising to those users. I expect the FTC does not feel it has the authority to make any binding rules without congressional action. But, even agreeing with that limitation, these principles are underwhelming and, as demonstrated by Google, are limited in usefulness even where companies claim to meet them.

The four FTC principles are at the end of a staff report titled "Self-Regulatory Principles For Online Behavioral Advertising." They basically try to encourage good behavior on the part of companies engaged in behavioral advertising. The principles are:

1. Transparency and customer control — Web sites collecting data to be used in behavioral advertising should inform users and enable them to opt out.
2. Reasonable security, and limited data retention for customer data — anyone collecting such data should provide reasonable security for it and only retain the data as long as needed.
3. Affirmative express consent for material changes to existing privacy promises — new privacy policy should not control use of data collected under previous privacy policy without user opt-in.
4. Affirmative express consent to use sensitive data for behavioral advertising — such data (like Social Security numbers) should not be used without user opt-in.

These principles are OK, but have no teeth: they are voluntary and there is little if any real penalty if a company ignores them. The FTC might ask the companies pretty please to stop, but that's about it.

My biggest problem with the FTC principles is that they represent yet

another point solution to a symptom rather than anything addressing the underlying cause.

Why should principles such as these be limited to the specific case of behavioral advertising? Why shouldn't we have principles that apply to all information about me that someone else gets a hold of?

The FTC principles have been diluted in favor of the advertising industry rather than being shaped primarily by our best interests. I note that the FTC staff lists industry representatives first when identifying who they talked to. The principles are not all one-sided — they do include some things that the industry objected to, but not many.

Google has expressed support for the FTC's action, but this may be a very good example of what is lacking in these principles. As I mentioned in last week's column, Google is less than forthcoming when addressing the transparency requirement. I have not been able to figure out just what they collect about me and my actions with their various tools (including the basic search engine, Google Analytics, Google Earth and Google Latitude).

After last week's column I was contacted by someone from Google who said my fears about Latitude were overblown because they only keep a single location, the last one received, for people who have enabled location sharing via Latitude. That is good news. When I asked where on the Google Web page the company says that, the response was that it was towards the end of a video on YouTube. This is a perfect example of what is wrong with the FTC principles — Google cannot even get it together enough to put good privacy news on its Web page in a way that the user can find and understand it.

Disclaimer: Understanding underlying principles is a goal of any good educational intuition, but I know of no Harvard view on this example, so the above is my principled review.

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## ATM hack: Organized crime or market forces?



**SECURITY: RISK AND REWARD**  
Andreas Antonopoulos

**I**n November of 2008, a single scam netted more than \$9 million in a global automated teller machine heist. According to the FBI the attackers compromised pre-paid payroll cards from RBS WorldPay and gift cards, launching a coordinated attack against more than 130 ATMs in 49 cities around the world. The cards were exploited by "cashers" who withdrew money during a single 30-minute window. If the preliminary findings of the FBI turn out to be true, this could represent one of the most organized attacks in cybercrime history.

Many security researchers have been looking at the rise of professional cybercrime as a uniquely worrying phenomenon. Gone are the days of the juvenile hacker working alone for fame and glory. Increasingly the motive for cybercrime is financial and the perpetrators are professionals.

Looming in the background is the more frightening possibility of organized cybercrime, where multiple cyber-criminals work in vast conspiracies to pull off mega-heists. According to the FBI these are often connected to other criminal activities either as the sources or recipients of laundered funds for drugs, gambling, prostitution and even terrorism.

But crime doesn't have to be organized or conspiratorial to be large and worldwide. My concern is not in a vast conspiracy of criminal organizations but in an even bigger result achieved purely through the loose-coupling of market forces. Let's take the ATM heist as an example — is it easier to pull off a command-and-control exploit across 49 countries with more than 130 subcontractors? Or were the cashiers

simply the participants in a multi-level loosely coupled market?

A criminal organization that can harness 130 or more individuals and coordinate their actions in 49 countries is scary. But a marketplace that can lead to the emergent collaboration of 130 or more actors is far scarier.

Firstly, a conspiracy doesn't scale. Eventually it gets too big for its own good. Someone blows the whistle or someone already under legal surveillance gets involved and reveals the whole plan. It's hard to run any organization of that size without middle management and eventually even a criminal organization will have to deal with diminishing returns. But a market is altogether far more efficient. If once the cards were compromised they were sold to smaller organizations or individual cashers the entire scheme can scale to much greater size. Of course, you would need to tell all the buyers that the card will only work during a 30-minute window and let their own profit motive keep them on time. Worse are the implications for law enforcement. A market can operate through opaque and anonymous cash transactions. The cashers may have no idea who sold them the cards. The sellers in turn have no idea who cloned the cards, the cloners don't know who hacked the bank. The FBI has the photos of two of the cashers in a wanted poster.

Unfortunately, if this is not organized crime but loosely coupled markets at work, these cashers may have had as much contact with the hacking organization as a drug mule has with the opium farmer.

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# Getting a handle on mobile devices

BY DAN DEARING

While business users are thrilled by the capabilities of smartphones and quickly adopting them as handheld computers, it is unlikely their IT counterparts share in the excitement because traditional management platforms have not provided the tools to effectively secure and manage them. Until the arrival of Enterprise Mobility Management.

EMM provides a Web services platform to manage and secure smartphones and rugged devices regardless of manufacturer. This EMM addresses the nuances of smartphone technology while also providing tools that are similar to those used by IT to manage and secure laptops and desktops. An established EMM platform includes:

- **Heterogeneous device support:** Policy-based security and control for iPhone and other non-BlackBerry devices, which includes device loss protection; endpoint security; data-leak protection; network access control (NAC) and identity management.

- **Centralized management:** Enterprise-grade device management, providing centralized provisioning, compliance enforcement, asset reporting, help desk diagnostics and a self-service user portal via a secure over-the-air SSL connection.

- **User compliance facilities:** Reporting and enforcement facilities to ensure user compliance with IT mobility policies.

An enterprise mobility strategy must satisfy stakeholders throughout IT, including information assurance, administration and operations

and the user-facing help desk team.

The EMM console lets security administrators create policies for each user based on the type of smartphone used and the security posture associated with the user's job. Policy assignments can also be made based on the user's membership within various groups listed in the enterprise's directory service.

For example, a corporate executive may require a more liberal security policy while a field sales representative might need a higher security policy because there is greater opportunity for device loss.

All policies are delivered over the air to the smartphone agent that enforces the policy. Console reporting tools can be used to track the security posture of each user device for compliance reporting. NAC capabilities are also an essential part of the EMM platform and give the IT team a way to ensure user compliance.

The EMM platform provides administrators with a way to discover and catalog deployed handheld mobile devices. Details about device hardware, software and status are gathered and transmitted to the EMM on a configurable schedule. Information about the population of

mobile devices — number of devices, serial and model numbers, and amount of RAM — are provided by reporting tools found within the EMM console and can be used to help plan and maintain an enterprisewide deployment.

While helping to maintain and track each device, the EMM platform also supports policy-controlled and automated deployment of applications, simplifying the deployment process. The platform should also support the installation, removal and upgrading of applications by group policy.

The EMM platform provides help desk tools for image management, deployment and reporting while also providing remote interactive diagnostics that help resolve issues without requiring users to surrender their devices.

In addition, EMM Self-Service Portals can help offload the help desk of routine issues such as forgotten password and device unlocking. This resource should be accessible to users from a browser on their mobile device or laptop. The portal should provide users with quick and easy access to FAQs, policy guidelines, device documentation and software.

In summary, when you're evaluating an EMM platform ask yourself these three questions:

- Is the solution based on centralized management that eliminates operational expense by simplifying how IT administrators and help desk specialists implement policies, assist users and enforce compliance for mobile applications across the enterprise?

- Will the EMM platform offer IT the ability to secure and manage a truly heterogeneous smartphone environment while having the ability to assist in addressing the needs of a mobile workforce?

- Will the EMM solution help the CIO to control smartphone costs while also protecting corporate information?

If a thorough evaluation and selection process has been done then an enterprise will reap the benefits of EMM that include avoiding data center expenses by integrating with directory services, database resources and VPN infrastructure. These capabilities will enable you to provide choices of smartphones and applications to best meet the mobility needs of workers.

*Dearing is vice president of Marketing and Product Management at Trust Digital. Contact him at [ddearing@trustdigital.com](mailto:ddearing@trustdigital.com).*

## Sample profiles

		Data Protection Security Policy (Example: Corporate Executive)	High Security Policy (Example: Field Sales Representative)
Administrative support functionality	General	Admin PW access & reporting	Admin PW access & reporting
	Help Desk	Wipe, remote unlock, uninstall	Wipe, remote unlock, uninstall
Data protection	Encryption Method	AES 256	AES 256
	Protected Files	PIM & "Office" Docs and IE	PIM & "Office" Docs and IE
User authentication	Password	6 character PIN, 10 attempts, Wipe after failure, Idle timer 5 minutes	6 character PIN, 10 attempts, Wipe after failure, Idle timer 5 minutes
Peripheral & resource control	Infrared "beaming"	On	Blocked
	Wi-Fi	On	Blocked
	Bluetooth	On	Blocked
	Camera	On	Blocked
	SD Card	Allowed / Encrypted - All Files	Allowed / Encrypted - All Files
Application management	Image lock	Off	On
	SMS/MMS supervision	Off	On
	IP supervision	Off	On
	Web browser	Allowed	Blocked
Administrative controls	Login monitor	On - After 15 days, device will automatically wipe	On - After 15 days, device will automatically wipe

This vendor-written tech primer has been edited by Network World to eliminate product promotion, but readers should note it will likely favor the submitter's approach.





## GEARHEAD

Mark Gibbs

# TiddlyWiki macros and plugins

In this, the penultimate installment on the wonders of TiddlyWiki, the free, open source, personal, portable wiki system, we'll look at two of the three topics promised last week, TiddlyWiki's macros and plugins.

Macros and plugins let you change the behavior of TiddlyWiki without having to change the source code.

Both macros and plugins are JavaScript code stored in tiddlers (TiddlyWiki's basic unit of content) that are labeled with the tag "systemConfig". This allows the TiddlyWiki system to identify them as code.

TiddlyWiki includes a number of macros, such as newTiddler, which is shown as a link in the right-hand menu of the standard distribution and, as you might guess, creates a new tiddler.

There's also a sparklines macro that creates sparkline graphics; tabs, which create a tabbed presentation inside a tiddler; and slider, which creates a button that slides out text when clicked. The difference between a macro and a plugin is that plugins are executed at load time while macros are called when individual tiddlers are opened or other events occur, such as buttons being clicked. Also, after a plugin has executed at load time, it can provide code to be invoked by a macro, making the distinction between the two a little loose.

Here's a simple plugin that consists of a code fragment in a tiddler that is tagged with "systemConfig":

```
//{{{
alert("Hello world");
//}}}
```

At start-up the code fragment will be executed and display the message "Hello world". This technique is often used for making global changes to the TiddlyWiki architecture before the user gets involved.

To create a macro we need to modify the code and add the macro's name to the global object "config.macros" and then declare a handler for that name. We now have a macro, actually a JavaScript function, which can be executed on demand. Here's what a macro looks like:

```
//{{{
config.macros.helloWorld = {
  handler: function (place, macroName, params, wikifier, paramString,
    tiddler)
  {
    // this will run when macro is called from a tiddler
    var who = params[0] || "world";
    alert("Hello " + who);
  }
};
//}}}
```

Like the plugin, in the code is the content of a tiddler and it is tagged with systemConfig.

Macros can be very sophisticated and include features such as parameter passing, domain object model awareness, calling tiddler identification. To use the above macro from a tiddler you'd include the text:

<<helloWorld 'all TiddlyWiki fans'>>

The angle brackets are TiddlyWiki markup defining a macro call. In this case, the helloWorld handler will be called when the tiddler is opened and a dialog box containing the message will be displayed (if no argument is provided the macro would print "Hello world").

There are a few guides to creating custom macros such as the one at TiddlyWiki Guides ([www.nw.docfinder.com/8825](http://www.nw.docfinder.com/8825)), but they are not for the faint of heart as they are mostly short on detail and incomplete.

*Gibbs is plugged in Ventura, Calif. Run your code at [gearhead@gibbs.com](mailto:gearhead@gibbs.com).*



## COOLTOOLS

# BodyGuardz: Too much work

In the nine or so years that I've been writing this column, I've come across only a few products that have looked good on paper, but after opening the box or trying out the device, things quickly went downhill.

Such is the case with BodyGuardz, a scratch-proof, transparent film "for electronic devices". The version I got was

for the Apple iPhone 3G, and it looks like the countless number of other protection devices or materials that aim to protect your mobile device. The box says that "BodyGuardz are a clear film that covers the body of a device, providing scratch protection from outside elements." In fact, they're made of the same materials used to protect "the front of automobiles from stones and other abrasive elements."

I figured I would just slip on the film like some of these other protective sleeves, and it would be a quick write-up. But then I opened the box, and discovered an "application solution" and a "squeegee card", along with four-step instructions on how to apply the film to the iPhone. A closer inspection of the application solution revealed that while "not harmful", it was made of water and baby shampoo. Umm ... OK.

It gets better (or worse, depending on your point of view). First, I had to make sure I was installing the film in an area that was between 60 and 90 degrees, and to make sure that wind and dirt were not in the area ("wind and dirt are your enemies" was one hint offered).

Next, I was instructed to wet my hands with the application solution, and keep them wet whenever handling the film. In peeling off the film from the liner, I was instructed to spray the sticky side with the solution, to prevent the film from folding and sticking to itself before laying it on the device. If this worked, the next step was to lay the piece of film onto the device and position it correctly. It seemed a lot like doing papier-mâché, or molding a clay pot on a spinning wheel.

Step three and four involved using the squeegee card to get rid of any extra moisture, soap or air bubbles, with the warning that if I tried to remove the film after 10 minutes, it would leave fingerprints on the film.

The instructions offered extra hints, such as "be prepared", "go slow until you are more experienced", and "don't be afraid to keep spraying." After reading these instructions, I decided to pass on putting this film onto my iPhone, or on any other electronic device. It seemed like an awful lot of work, just so I could protect my iPhone from scratches — especially when there are protective cases and covers that don't involve wetting my hands with baby shampoo and water.

I'm sure there's someone braver (and more patient) than me who wants to try and apply

one of these films to their electronic device. If that's the case, send me an e-mail and I'll mail you the package.


Grade: ★ (out of five)

*Shaw can be reached at [kshaw@nww.com](mailto:kshaw@nww.com).*



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# fave raves

BY BETH SCHULTZ

Six must-have products in readers' own words

## 1. AppRiver's Microsoft Exchange Hosting with Shoreline

*Antonio Palumbo, IT manager with Blue Man Productions, in New York, says ...*

When I came here, Blue Man management had started the process of moving from [Alt-N Technologies' MDAemon e-mail server] to AppRiver by putting any new employee on AppRiver Exchange Hosting. I was happy about that, but I wanted to be sure we had everyone on AppRiver. With MDAemon, we were constantly getting bombarded with trouble-tickets, so every time we moved a user to AppRiver, that would mean one less problem because Exchange Hosting is so solid.

I knew that getting everybody on the same e-mail system, with unlimited storage, was going to make everyone's life a lot easier and simpler.

Today, all that storage is no longer a problem. It's on AppRiver's servers and backed up constantly, with redundancy across the AppRiver infrastructure. Plus, users can check their e-mail anywhere in the world as long as they have an Internet connection.

Blue Man is a very fun, mobile and young company. Everybody knows Blue Man for the theatre production, but we also have a school, the Blue Man Creativity Center in New York for children. E-mail, of course, is a huge part of that. People don't just sit at their desks at Blue Man. They're always walking

around, and traveling internationally, and the fact that they never have to be concerned about getting their e-mail means they can focus on their creative strategies.

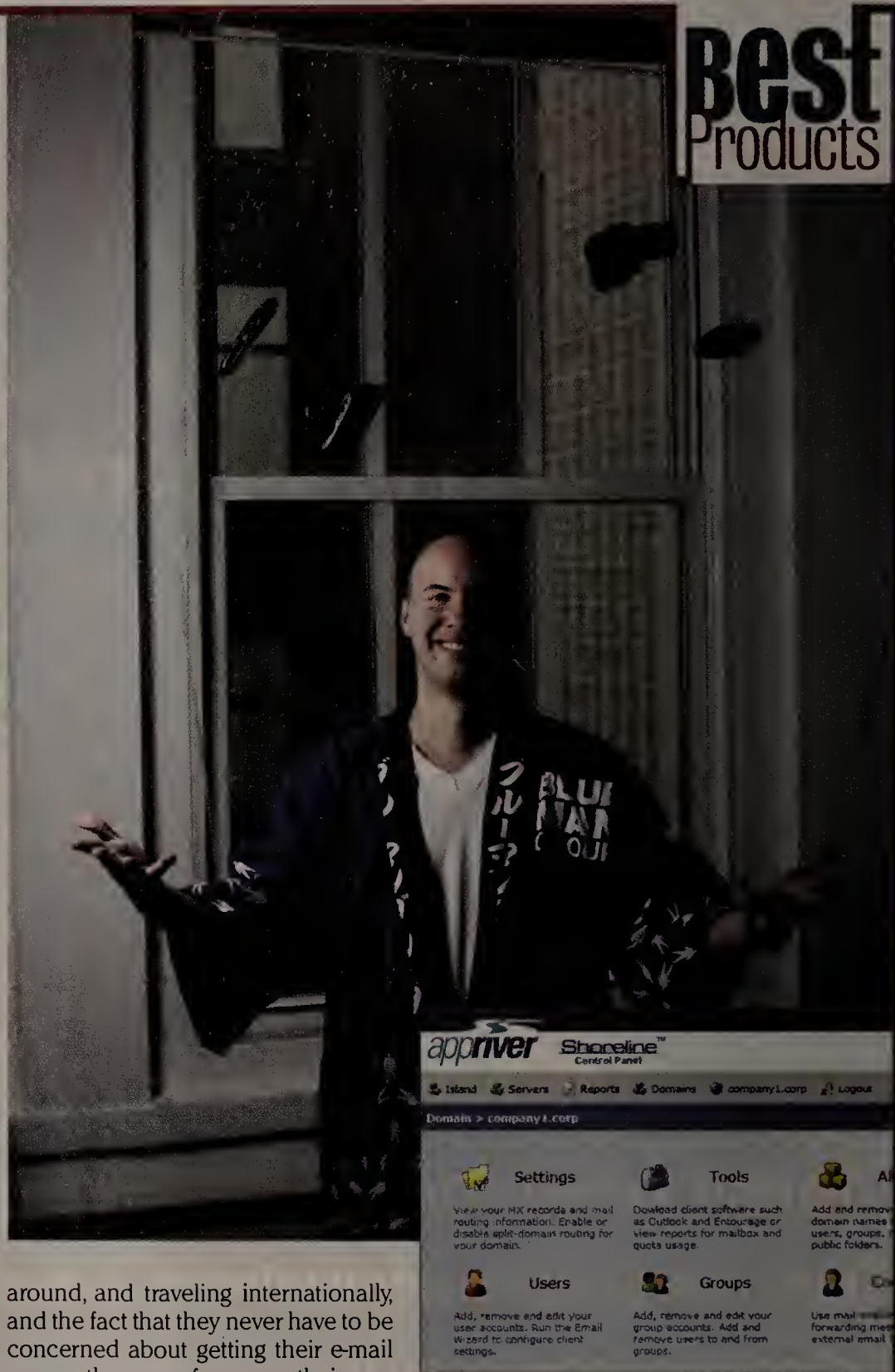
A lot of folks here have company-issued BlackBerries, but they also have iPhones. AppRiver is one of the first companies to offer iPhone support, with Microsoft Exchange ActiveSync. That was a huge plus for us. In the corporate environment, when folks come in with iPhones and say, "Hey can we set this up with Exchange?" nine out of 10 times the answer is no. But here at Blue Man, it was a definite yes, and that makes things flow a lot easier.

Every piece of e-mail, no matter the device, goes through AppRiver servers. We have over 600 users, who each get more than 100 to 200 e-mails per day, so we do huge volume. AppRiver helps me sleep easy at night.

For management, AppRiver provides us with the Secure Hosted Exchange with Shoreline interface, which is amazing. I can log into a public Web site, with a secure connection, from anywhere in the world and create an e-mail account on the fly. From the application standpoint, I go into Shoreline, download a password request form, hit 'next' and everything is configured for me.

Accounts are easy to set up, and the return on investment is unbelievable. By using AppRiver we save from 25% to 30% per year, depending on the user base, which changes month to month. First, we don't have to buy more hard drives and, from a support standpoint, we have no need to have a full-time Exchange administrator. That saves us \$100,000. And AppRiver pricing is very aggressive per user.

See Faves, page 26



Best  
Products



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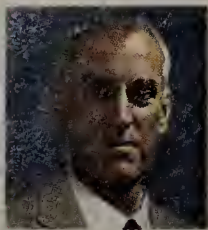


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## 2. BeyondTrust's Privilege Manager

Ned Cahill, IT director at Schnabel Engineering, in Glen Allen, Va., says ...



We were running Symantec, and a year to a year and a half ago, an upgrade broke all the servers and was a disaster on the laptops. It took us four or five days to get it working correctly.

We said, 'There's got to be a better way. How do we stop malware from coming in, other than fighting these ridiculous virus programs constantly?' Then the idea came up, 'You know, if they're not administrators, the software can't install.' And we thought that was a brilliant idea, and started futzing around looking for tools that would accomplish the task.

We needed a tool that would let us balance what users need to do their jobs against what we need to keep malware from coming in. Compliance was an issue, too. I work with engineers who installed software because it was the tool they needed to do their jobs at that moment regardless of licensing issues.

But they were installing software that we [IT] thought we could get bit in the butt on, and we decided that had to stop, too.

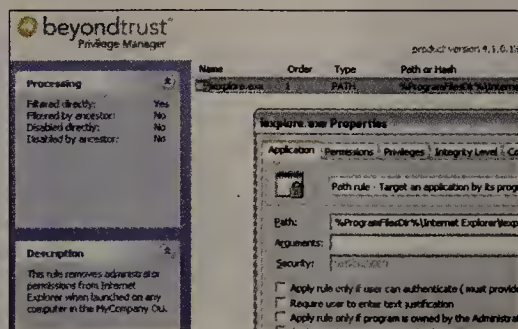
Surprisingly, we didn't find many tools and those we did find were homegrown, difficult to set up and deal with and didn't really fall under Active Directory, which is big for us. It wasn't until we discovered the term "least privilege" that we came across BeyondTrust. We downloaded Privilege Manager and in about an hour, we had accomplished what we

we wanted, which was pull administrator rights, but still give users the ability to do their job.

BeyondTrust also is very good with support. If you have a question and send an e-mail, you'll get an answer that day. You don't get that with a lot of vendors, so I like that. I want to be a big fish in somebody's small pond.

We have 400 users scattered nationwide, and 100 of them can be anywhere in the world. We're in foreign countries all the time, and users have to be able to connect and work. It's very tricky to do if you take away their admin rights, but we've had no problem at all. I don't want to keep adding support people. I want my support guy to be able to take care of more people, and these kinds of tools help.

And BeyondTrust is transparent to users. It installs through an Active Directory policy. We did the installation in about three hours — we just told everybody to reboot. It was great — and not having to spend my nights chasing down a virus has been fantastic.



## 3. Apple's Macintosh computer

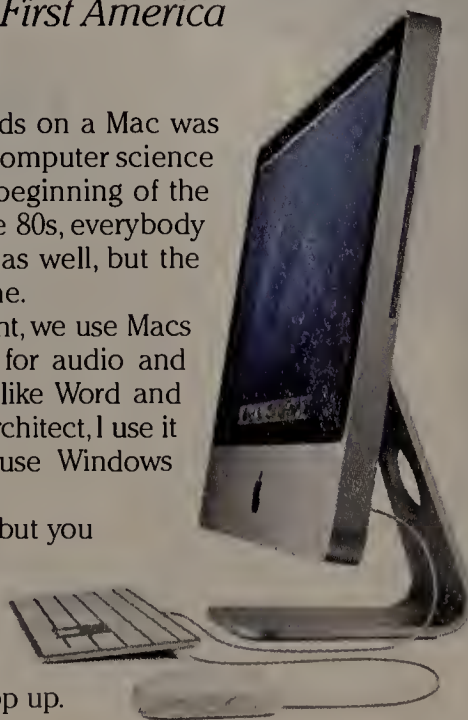
Jake Seitz, enterprise architect, The First America Corp., Santa Ana, Calif., says ...



The first time I got my hands on a Mac was probably in '85 or '86, at the computer science lab in college. That was the beginning of the desktop phenomenon. In late 80s, everybody started going with Windows as well, but the Mac just kind of stuck with me.

In the corporate environment, we use Macs for just about everything — for audio and visual, for videoconferencing, for typical tasks, like Word and Exchange. So really, from my perspective as an architect, I use it for just about everything. Of course, I also use Windows machines at work. Each has its pros and cons.

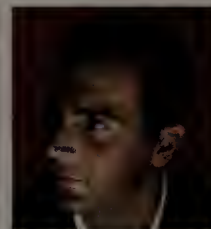
The corporate policy here is Windows-based, but you can opt out for a Mac and receive partial support. "Crusade" is probably too strong a word, but I definitely have persuaded some folks here at work that Macs might be the best fit for them, so we're starting to see more and more Macs pop up.



## 4. Microsoft Exchange 2007 SP1

Bryce Morrow, CTO at The Beck Group, in Dallas, says ...

We'd been using Lotus Notes since around '97 timeframe, and by 2006 we felt it had atrophied. That's when we really started talking about needing more integration between CRM, other applications and e-mail.



Integration is our business, not from a technology standpoint, but from a business-process standpoint. We have done a good job of becoming an integrated firm, so I felt like we needed a product that would allow us to do more of that — be integrated and grow in an integrated manner. That's not to say Lotus Notes couldn't do that, but we didn't have the staff to continue developing for it at the rate we needed.

In July '07, I started looking at Google Apps and Exchange. I felt that the online application service was around the corner — and by that I mean Google serving up applications, Word documents, spreadsheets, and the like — but it wasn't quite ready at that

point and I wasn't willing to take the risk.

I was pulled to Exchange because of the entire Microsoft suite — not only Exchange, but MOSS [Microsoft Office SharePoint Server], LiveMeeting, SCCM [System Center Configuration Manager], six or seven products — and I felt that would give us a good jumpstart on integration with the infrastructure and with non-Microsoft and business-critical systems and applications.

We made the decision to go with Exchange in January 2008, and went live Aug. 18.

We are running 13 virtual servers in our Exchange environment with 1,000 users on three physical hosts. We use VMware ESX server connected to Apple Xserve RAID storage.

The Exchange environment has outperformed our expectations. The virtualization piece really makes the servers easier to manage from an administrator's standpoint. The learning curve for our employees has been minimal, and they are able to do things in Outlook that were not possible in the old system.

For example, the way we archive e-mails for legal purposes is more streamlined now. At a job site, what used to take, say, an hour, now takes 10 minutes. And, before when users archived documents out at a job site, they never knew what was happening. Now they see a progress bar. That was a huge productivity gain for us on the project — and a very important one at that.

See Faves, page 28



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## 5. Sophos' Endpoint and Security Control software

*John Endahl, senior information security administrator at Tech Team Global, in Southfield, Mich., says ...*



When I first came into the organization five years ago, we were using another company's product. It was one of the top three products, but we kept having issue after issue with it and the support was absolutely horrible. When it came time to renew our contract three years ago, we could pay almost double the cost for a better support contract, or we could switch to different product.

We started a six-month process of evaluating products based on our criteria: It had to be simple to deploy and to administer. It had to have decent antispam capabilities for a gateway product. It had to have good technical support — which is really why we wanted to get away from our previous vendor. And it had to be something I was capable of administering on a day-to-day basis. We've got offices pretty much all over the world, and we're still expanding. I have to be able to look at what's going on at all these different locations, make sense of a problem, and if I'm not able to correct it immediately, I need to make sure I've got the support behind me that will get it resolved quickly. In the final analysis, Sophos had all the essential pieces without making the prod-

uct so technically challenging that we'd have problems rolling it out.

What won me over from a technical standpoint was Sophos' updating mechanism. The other vendors released weekly or daily updates that typically would be megabytes in size. So every time an update came out, we'd be downloading a multi-megabyte file to a central server and then pushing that file out to every single system over the local network. With Sophos, new definitions get released as they're ready to go. Sophos typically releases eight to 10 definitions a day. Those definitions are very small, like 4K each, which makes download and deployment much quicker and easier with a whole lot less network overhead. Because those definitions are so small, we can have our systems update every 15 minutes with no impact on the endpoints. This reduces the vulnerability window against any new or emerging threats.

Over last three years, Sophos has built a lot of additional functionality into the product. It has rolled out application control, for

SOPHOS

endpoint  
security  
and control



example, so we can stop unauthorized applications [like games or some business tools] from running on our network. It has also rolled out device control, so we have the ability to lock down USB devices, CD-ROMs, floppy disks and so on, to keep anything nasty from coming in from that particular attack vector. And it recently rolled out network access control as part of the product. Since all this added functionality

at no additional cost to us, that's a return on investment we can really appreciate and show to our vice presidents.

As for support, normally the phone gets answered within the first four or five rings, and I have a tough time getting the person off the phone till that person has resolved the issue. ... I've been amazed and impressed with the depth of knowledge every support person I've talked to has about the inner workings of the product. They get in there, know exactly what an error message means and know where to go from there.

## 6. Cisco Aironet 1142 wireless access point

*Erik Parker, a senior infrastructure analyst at Toyota Motor Sales, in Torrance, Calif., says ...*



We have about 2,800 access points deployed across the country. The bulk of them are installed in warehouses, which is strictly for parts picking. But we also have them in all of our regional sales offices for general usage — laptops, guest access and for some specialty devices; our service training division; and our campus wireless, which covers the 22 buildings here. The campus wireless is used

primarily by our guests, because we have so many vendors and consultants on campus, and then secondarily by associates.

On campus, where we've got tons of file sharing, larger applications, streaming video, things like that, the 802.11n wireless network is the first technology that's really allowing us to consider no longer running wires to the desktop. The throughput of 802.11g just wasn't quite high enough. But now the n-based access points are pretty much giving us the same throughput as a hard-wired 100Mbps link, while using a 40MHz channel width.

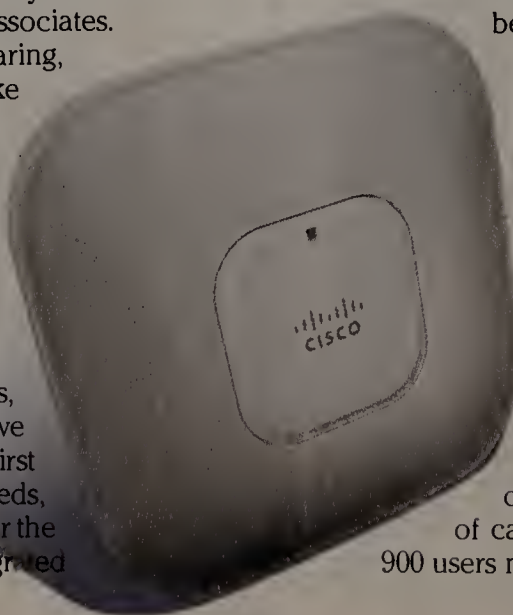
We originally started testing with the 1252s, which is the ruggedized "n" access point and we saw phenomenal speeds. When we got the first 1142 in for testing, we saw the same types of speeds, but the 1142 has a couple of big advantages over the 1252 for the office area. One, it has an integrated

antenna so it can be placed above the ceiling tile and, two, it runs off of normal 802.3af power. The 1142 is nice; we just plug it into our standard Catalyst 6500 or Catalyst 3750 PoE chassis and it powers up perfectly and starts servicing clients and connects to the controller.

The 1142's beamforming is one feature that is extremely cool, but because of our quick life cycle of being able to retire old protocols we won't get a lot of benefit out of it. If you take away all the marketing terms and fluff and read the technology behind beamforming, it's really

incredible. It lets us get higher speeds to our "g" clients because we're able to offer them a better signal-to-noise ratio overall. I know beamforming is part of the standard, as an optional piece, but how Cisco is doing it [in silicon] is cool. When you look at how many clients have so-so signal-to-noise ratios, increasing those will provide a huge benefit.

We have the 1142 running in a test environment currently. The first site rolling out all n-based wireless network is coming up the first week in March. That's a small remote service training site, so it'll only get about a dozen access points. By the end of this year, we'll probably have about 50 1142s deployed, mostly here on campus — between the two engineering buildings — and then by the end of next year we'll have 450 deployed, which will be all of campus. Once we're done, we'll be looking at about 900 users moving to 802.11n.





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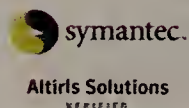


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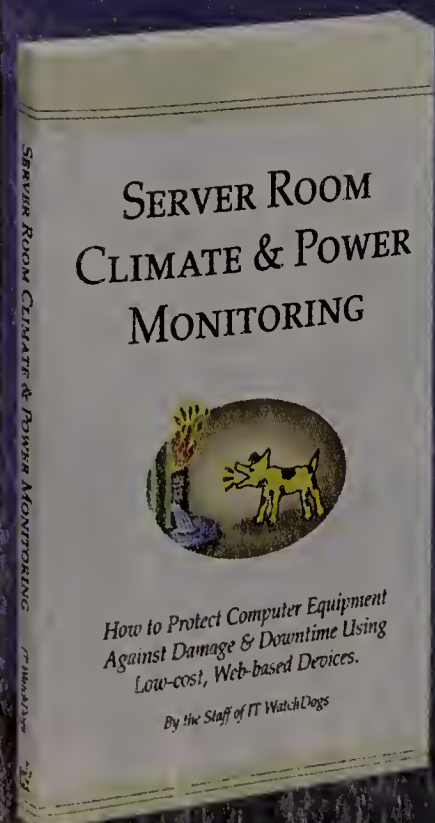
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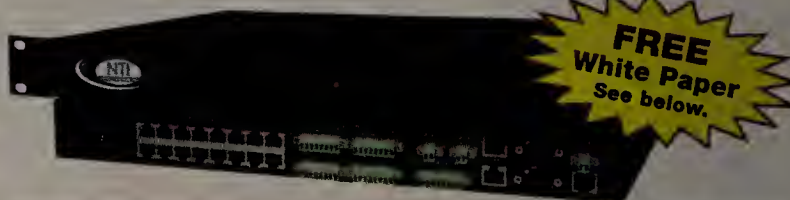


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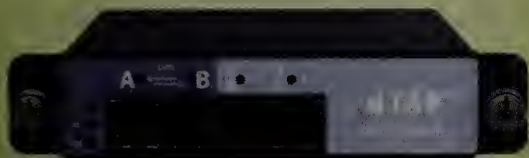
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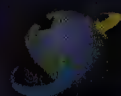
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# Security guru pushes DNS patching

BY CARA GARRETSON

WASHINGTON, D.C. — Dan Kaminsky, who for years was ambivalent about securing DNS, has become an ardent supporter of DNS Security Extensions.

Speaking at the Black Hat DC 2009 conference last week, the prominent security researcher told the audience that the lack of DNS security not only makes the Internet vulnerable, but is also crippling the scalability of important security technologies.

"DNS is pretty much our only way to scale systems across organizational boundaries, and because it is insecure it's infecting everything else that uses" DNS, the fundamental Internet protocol that provides an IP address for a given domain name, said Kaminsky, director of penetration testing at IOActive. "The only group that has actually avoided DNS because it's insecure are security technologies, and therefore those

technologies aren't scaling."

Kaminsky began promoting DNSSEC last summer, following his discovery of a significant DNS flaw — known as the Kaminsky Bug — where cache poisoning attacks allow a hacker to redirect traffic from a legitimate Web site to a fake one without users realizing it. DNSSEC attempts to prevent spoofing attacks by allowing Web sites to verify their domain names and corresponding IP addresses using digital signatures and public-key encryption.

Even though key operating system vendors — including Sun, Cisco and Microsoft — released patches to temporarily fix the flaw, Kaminsky said DNS security has not been widely adopted.

The U.S. government, for example, missed its January deadline for rolling out DNSSEC on the .gov top-level domain, and is aiming to complete the task by the end of February and

to patch all subdomains by December.

One roadblock to DNSSEC adoption is that it isn't easy to implement, Kaminsky admits, and calls for coordination by many parties. DNSSEC requires domain name registrars, domain name registries, ISPs and users to upgrade their software.

Still, Kaminsky said DNSSEC offers the most feasible solution to a serious threat.

"We need to put out the immediate fire," he said. "We should stop arguing whether DNS should be used for security and [just] use it for security because it scales."

Kaminsky stressed the importance of securing not only DNS servers on the Internet, but those behind firewalls as well. This is because Web applications such as e-mail and browsers can be manipulated to perform DNS lookups, and therefore are vulnerable to penetration. ■

# Cloud security fears are overblown

BY JAMES NICCOLAI, IDG NEWS SERVICE

It may sound like heresy, but it's possible to worry a little too much about security in cloud computing environments, speakers at IDC's Cloud Computing Forum said last week.

Security is the No. 1 concern cited by IT managers when they think about cloud deployments, followed by performance, availability and the ability to integrate cloud services with in-house IT, according to IDC's research.

Keeping data secure is critical, but companies need to be realistic about the level of security they achieve inside their own business, and how that might compare with a cloud provider such as Amazon Web Services or Salesforce.com, speakers said.

"A lot of security objections to the cloud are emotional in nature, it's reflexive," said Joseph Tobolski, director for cloud computing at Accenture. "Some people create a list of requirements for security in the cloud that they don't even have for their own data center."

That was the experience of Doug Menefee, CIO at Schumacher Group, which provides emergency room management services to hospitals. The company is migrating most of its applications to hosted, cloud-based services.

"My IT department came to me with a list of 100 security requirements and I thought, Wait a minute, we don't even have most of that in our own data center," he said.

Schumacher Group takes security seriously, Menefee said, but as a midsize company with only three IT staff working full time on security, he trusts large cloud providers to do it better. "We get the same level of security with Sales-

force.com as any large company using that service," he said.

Schumacher Group stores sensitive data only with providers that comply with the Health Insurance Portability and Accountability Act (HIPPA), Menefee said. He recently started a project to deploy Google's online productivity tools, but Google is not HIPPA-certified, "so no patient data gets stored there," he said.

Schumacher Group is not a publicly traded company, he noted, and its legal requirements for security are less complex than for public entities. Some large enterprises, especially in areas like finance, will have greater concerns about security, noted Jean Bozman, an IDC research vice president.

Still, one audience member admitted that the

idea was "counterintuitive" and that security concerns may actually drive companies into the cloud. "If you go to the RSA [security] conference, the major vendors will tell you every year that their next release will solve all these security problems that you have today. But they never do," he said.

Frank Gens, IDC's chief analyst, offered a definition of cloud computing: "Shared services, under virtual management, accessible over the Internet by people and other services via Internet standards." Some, but not all, are offered on a self-service basis, he said.

IDC revisited its projections for all areas of IT after the recession set in, and cloud computing was almost the only one for which its projection increased, Gens said. ■

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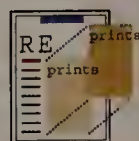
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## BACKSPIN

Mark Gibbs

# New Zealand gets insane copyright law

**O**rganized crime is everywhere. There's the Sicilian Cosa Nostra, the American Mafia and the Russian Mafia. There's also the Japanese Yakuza and, until they got so wealthy from their realty holdings and legitimate businesses they couldn't afford to be outside of the law, the Irish Sinn Fein.

The cynical among us might also include the barons of Wall Street and the cartels that control

oil (OPEC) and diamonds (DeBeers), along with the U.S. health insurance industry (how they avoid being taken to court for their antitrust activities is a source of endless surprise to me).

There's another type of organization whose actions border on criminal and are particularly dangerous to Internet users. I'm talking about the various groups around the globe that claim to represent the music recording industry.

These groups represent huge private corporations such as record labels and distributors and are remarkably powerful. One such outfit, the Recording Industry Association of New Zealand (RIANZ), has just achieved something so outrageous, so stupendously immoral, that it bears careful consideration.

Here's the story: A law was recently passed in New Zealand that has created what many consider to be the world's harshest copyright enforcement law. This insanity, found in Sections 92A and C of New Zealand's Copyright Amendment Act 2008 establishes — and I am not making this up — a guilt upon accusation principle! This means that anyone accused of "copyright infringement" will get his Internet connection cut off; and they will be treated as guilty until proven innocent.

And if that weren't enough, this crazy legislation defines anyone providing Internet access as an ISP and makes them responsible for monitoring and cutting off Internet access for anyone who uses their ser-

vices and is accused of copyright violations. Thus libraries, schools, coffee shops, cafes — anyone offering any kind of Internet access — will be considered ISPs and become responsible and potentially liable.

How could this ridiculous idea have become law in one of the nicest, most civilized countries I've ever visited?

The answer is that it is the result of immense pressure from RIANZ. In much the same way that the Recording Industry Association of America (RIAA) has used its massive legal resources to bully, harass and prosecute individuals alleged to have infringed copyright, RIANZ lobbied and somehow persuaded New Zealand's parliament that the law was just, reasonable and the right thing to do.

Consider that similar proposals have not only been rejected by the European Union, but have resulted in an amendment that prohibits member states from implementing laws that would allow the disconnection of people accused of file-sharing based on the often dubious "evidence" of anti-piracy groups.

This amendment — which states that any such legislation "disconnecting alleged file-sharers based on evidence from anti-piracy lobby groups restricts the rights and freedoms of Internet users" — put in a timely appearance given the British Phonographic Industry (BPI) has been lobbying hard for such laws and the French government was on the verge of implementing a bill similar to New Zealand's.

It seems that all of these industry meta-groups, the RIANZ, the BPI, and our own RIAA, just can't accept that they have a problem that can't be fixed the way they want it to be fixed. Instead they resort to politics and bullying to get what they want and it seems that many governments are willing to go along. How long before we see a U.S. law that mirrors the New Zealand law?

*Gibbs is somewhat cynical in Ventura, Calif. Send your suspicions to [backspin@gibbs.com](mailto:backspin@gibbs.com).*



Paul McNamara

## NETBUZZ

News, Insights, oddities

# Social networks vary on reliability

**T**hat Twitter had more downtime last year (84 hours) than any of 15 social network sites measured by an uptime monitoring service should surprise no one: The site's "fail whale" is so famous it was just featured in the *New York Times*.

However, what may surprise some Twitter users and industry observers — me, for example — is that the site's availability performance showed dramatic improvement over the sec-

ond half of 2008, according to Pingdom.

The same cannot be said for LinkedIn, which appears to have caught a case of whatever had been knocking Twitter offline so regularly.

Those are a few of the findings from "Social Network Downtime in 2008", a report out last week that covers Facebook, MySpace, LinkedIn, Twitter, Friendster, LiveJournal, Orkut, Bebo, Hi5, Windows LiveSpaces, Last.fm, Classmates.com, Reunion.com, Xanga and eight months worth of performance from Imeem.

Five from that group — including heavyweights MySpace and Facebook — recorded outstanding uptime records of 99.9% or better; the other three being Classmates.com, Xanga and Imeem.

"The survey reveals several interesting trends," says Pingdom's Peter Alguacil. "For example, a full 84% of Twitter's downtime came during the first half of 2008, when the service was still struggling with stability issues. July and onward has seen a significant improvement for the service. LinkedIn, on the other hand, is having the opposite problem. Each quarter showed a larger amount of downtime for LinkedIn than the previous one."

LinkedIn had 45.8 hours of downtime last year, second only to Twitter on the dubious distinction scale. Their public relations department did-

n't respond to my request for comment.

Third most often offline was Friendster, which logged the most lengthy downtime episode — 23 hours over three days in November — thus marring an otherwise middle-of-the-pack uptime record.

My takeaway: I'm going to lighten up on Twitter. ... And perhaps those of you who use LinkedIn can keep an eye on them for me.

## They won't take good-bye for an answer

I learned to steer clear of LendingTree.com three years ago when my search for a mortgage delivered nothing but spam. When I say I'm done with them, however, that's just an expression, as readers of Buzzblog learned last week as I passed along a tale of woe from a friend that redefines the phrase "customer-retention program."

This was the introduction: "Thinking about putting LendingTree.com to work for you (you know, the 'When Banks Compete You Win' folks)? Think again. Tried the service for a car loan and when they couldn't find anyone that wanted to loan me anything (which is a frightening glimpse into the state of the financial world since I have little debt and an excellent credit history) I went to close the account. But there is nothing on the site about how to do that. So I tried the customer chat option. Here's the transcript:"

Eight back-and-forths plus a supervisor later we get the bottom line: No can do; my guy is told they cannot deactivate his account.

The good news is that Buzzblog readers leapt to the fore with workarounds, and one even reported having just gotten LendingTree to do for him that which it said could not be done. All in all, good fun, and you can read the entire transcript and string of comments at [www.nwdocfinder.com/8836](http://www.nwdocfinder.com/8836).

*You can add your own there or here: [buzz@nww.com](mailto:buzz@nww.com).*





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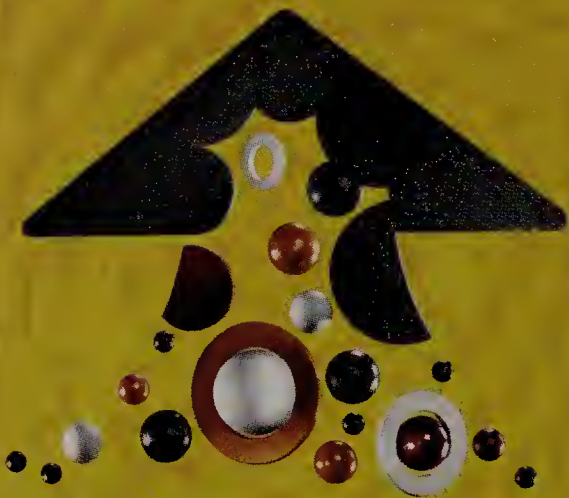
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